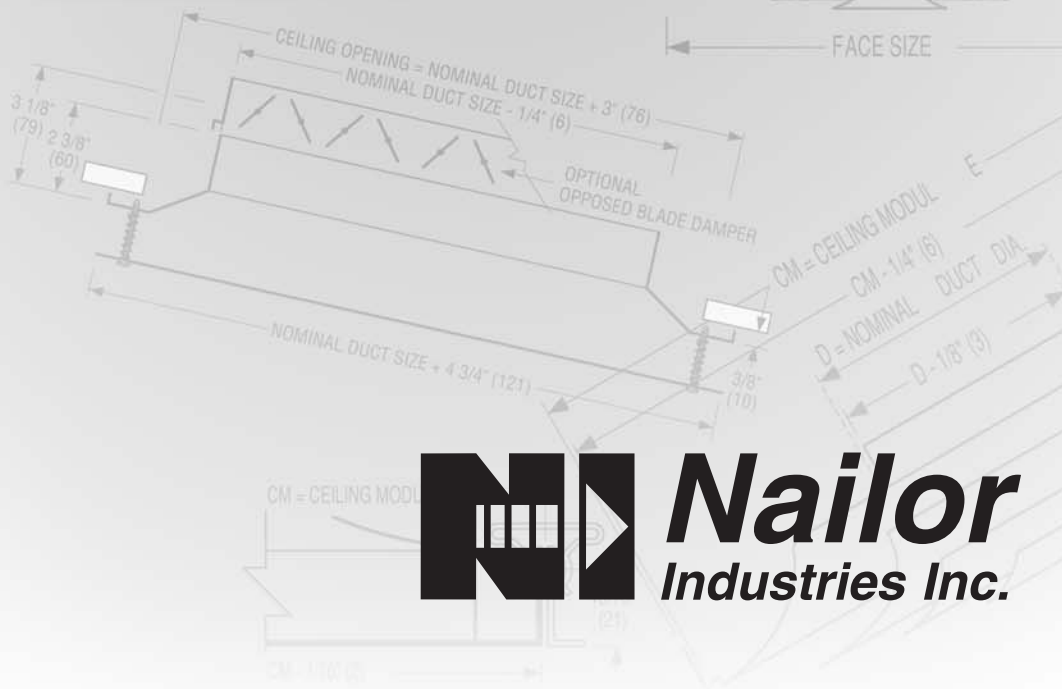
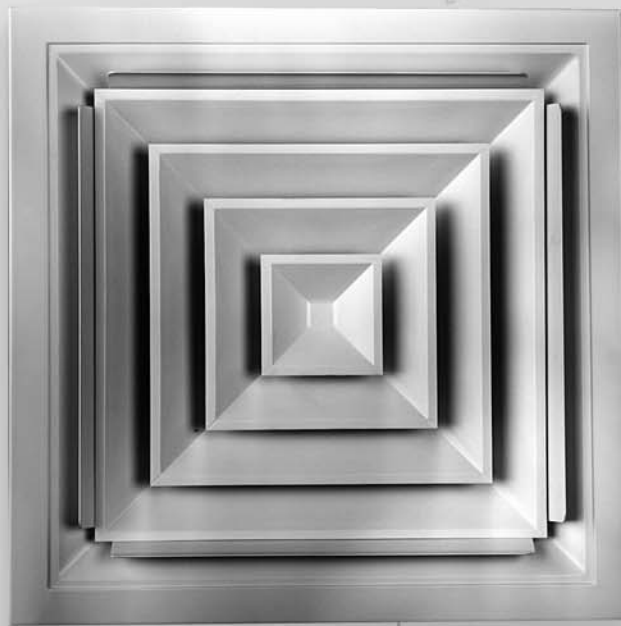


# CEILING DIFFUSERS



**Nailor**  
Industries Inc.

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## Perforated Supply Ceiling Diffusers (continued)

### Curved Blade • 1, 2, 3 or 4-Way Pattern

|          |                 |              |      |
|----------|-----------------|--------------|------|
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| 4320CBA  | - Aluminum Face | - Flush Face | D148 |
| 4325CBA  | - Aluminum Face | - Drop Face  | D148 |
| 4320CBAA | - Aluminum      | - Flush Face | D148 |
| 4325CBAA | - Aluminum      | - Drop Face  | D148 |

### Full Face • Curved Blade • 1, 2, 3 or 4-Way Pattern

|         |              |               |      |
|---------|--------------|---------------|------|
| 4340CB  | - Steel Face | - Square Neck | D156 |
| 4340CBA | - Aluminum   | - Square Neck | D156 |

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|        |                 |              |      |
|--------|-----------------|--------------|------|
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| 4325F  | - Steel         | - Drop Face  | D159 |
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| 4325FA | - Aluminum Face | - Drop Face  | D159 |

### Modular Core • 1, 2, 3 or 4-Way Adjustable Pattern

|         |                 |              |               |      |
|---------|-----------------|--------------|---------------|------|
| 4320M   | - Steel         | - Flush Face | - Square Neck | D164 |
| 4325M   | - Steel         | - Drop Face  | - Square Neck | D164 |
| 4320MA  | - Aluminum Face | - Flush Face | - Square Neck | D164 |
| 4325MA  | - Aluminum Face | - Drop Face  | - Square Neck | D164 |
| 4320MR  | - Steel         | - Flush Face | - Round Neck  | D169 |
| 4325MR  | - Steel         | - Drop Face  | - Round Neck  | D169 |
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| 4325MRA | - Aluminum Face | - Drop Face  | - Round Neck  | D169 |

### Full Face • Modular Core • 1, 2, 3 or 4-Way Adjustable Pattern

|        |                 |               |      |
|--------|-----------------|---------------|------|
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|         |                 |                                    |      |
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## Perforated Return Ceiling Diffusers

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| 4365    | - Steel         | - Drop Face     |                        | <b>D194</b> |
| 4360A   | - Aluminum Face | - Flush Face    |                        | <b>D194</b> |
| 4365A   | - Aluminum Face | - Drop Face     |                        | <b>D194</b> |
| 4360AA  | - Aluminum      | - Flush Face    |                        | <b>D194</b> |
| 4365AA  | - Aluminum      | - Drop Face     |                        | <b>D194</b> |
| 4340R   | - Steel Face    | - Flush Face    | - Square Neck          | <b>D200</b> |
| 4340RA  | - Aluminum      | - Flush Face    | - Square Neck          | <b>D200</b> |
| 4302    | - Steel         | - Flush Face    | - Ductless Application | <b>D203</b> |
| 4302-DF | - Steel         | - Drop Face     | - Ductless Application | <b>D203</b> |
| 4302-F  | - Steel         | - Fineline®     | - Ductless Application | <b>D203</b> |
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## Eggcrate Return Ceiling Diffusers

|        |            |                     |             |
|--------|------------|---------------------|-------------|
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## Modular Core Ceiling Diffusers

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|------|---------|---------------------------------------|-------------|

## Curved Blade Ceiling Diffusers

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## Air Balancing Devices

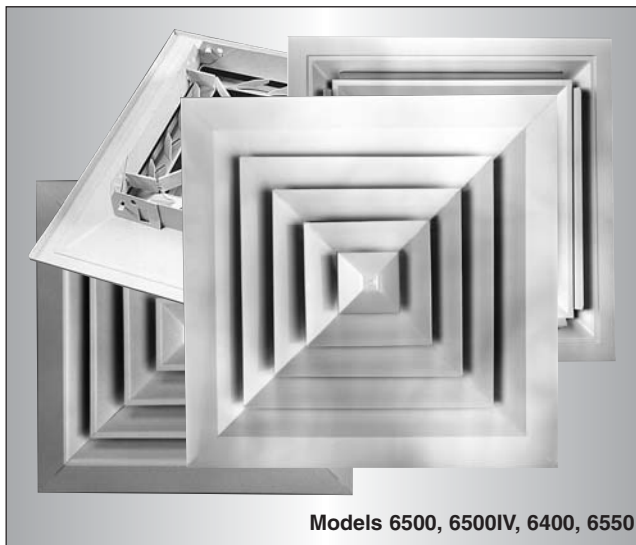
|                                                                          |             |
|--------------------------------------------------------------------------|-------------|
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| OBD - Opposed Blade Damper - Diffuser Mount                              | <b>D230</b> |
| OBDD - Opposed Blade Damper - Duct Mount                                 | <b>D231</b> |
| EGR, EGS/L - Equalizing Grid - Round Neck and Square or Rectangular Neck | <b>D232</b> |
| DEGR - Damper with Grid - Round Neck                                     | <b>D232</b> |
| DEGS/L - Damper with Grid - Square or Rectangular Neck                   | <b>D233</b> |
| 4295 - Quadrant Blanks                                                   | <b>D233</b> |
| EX, EXD - Volume Extractors - 2" (51) or 1" (25) Blade Spacing           | <b>D234</b> |

## GENERAL PRODUCT OVERVIEW

### Ceiling Diffusers

Quality Assured Products, unobtrusive clean lines for appearance, careful engineering and professional workmanship with the backing of an industry leader - these add up to true value; prime reasons for specifying **Nailor** Ceiling Diffusers.

Architectural excellence and engineering selections demand high quality products and shipping schedules demand service, all part of the package.



### Square and Rectangular Pattern

Nailor's pattern diffusers are typically used in applications where considerable volumes of air are required while maintaining relatively low noise levels and pressure drops. A full range of models are available and consist of a choice of corrosion-resistant steel or aluminum construction, fixed and adjustable patterns, as well as extra high capacity models. Induction vanes are also available for those jobs that require quick equalization of cool and warm air such as in VAV systems with high cooling loads. The louvered cores are removable and are available in an assortment of patterns.

#### Steel Construction –

Fixed Pattern – Model 6500

See Page D13

Adjustable Pattern – Model 6550

See Page D13

Induction Vane – Model 6500IV

See Page D34

Suffix '-O' adds a steel OBD

#### Aluminum Construction –

Fixed Pattern – Model 6200

See Page D13

Adjustable Pattern – Model 6250

See Page D13

Induction Vane – Model 6200IV

See Page D34

Suffix '-O' adds a steel OBD

Suffix '-OA' adds an aluminum OBD

#### Aluminum High Capacity –

Fixed Pattern – Model 6400

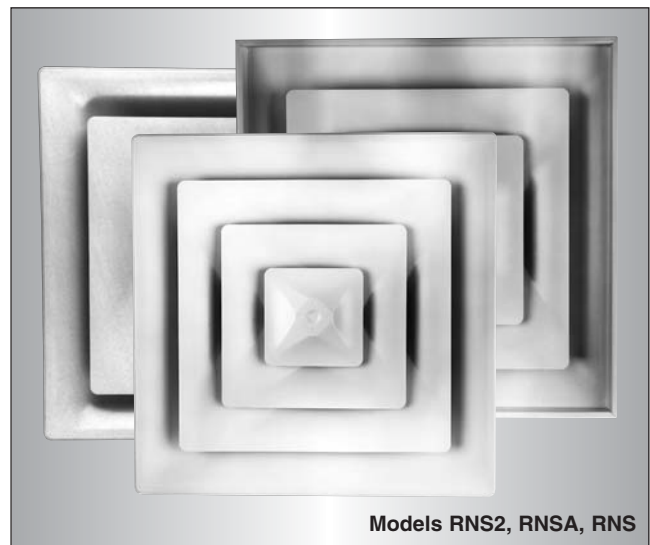
See Page D42

Induction Vane – Model 6400IV

See Page D62

Suffix '-O' adds a steel OBD

Suffix '-OA' adds an aluminum OBD



### Stamped Square

These diffusers are a very popular choice for general air distribution applications. The diffusers are designed to provide high performance at a cost effective price. The stamped one-piece cones and die-formed clean curves supply a 360° diffusion pattern and provide the high performance necessary in VAV systems. Integral round necks provide a secure connection for flexible duct applications. Nailor's "classic" four-cone, removable core design is available in most ceiling module sizes, a choice of corrosion-resistant steel or aluminum, and an option of fixed or adjustable patterns. A two-cone fixed pattern diffuser also accompanies this series.

#### Fixed Pattern

Steel Construction – Model RNS

See Page D79

Aluminum Construction – Model ARNS

See Page D79

#### Adjustable Pattern

Steel Construction – Model RNSA

See Page D84

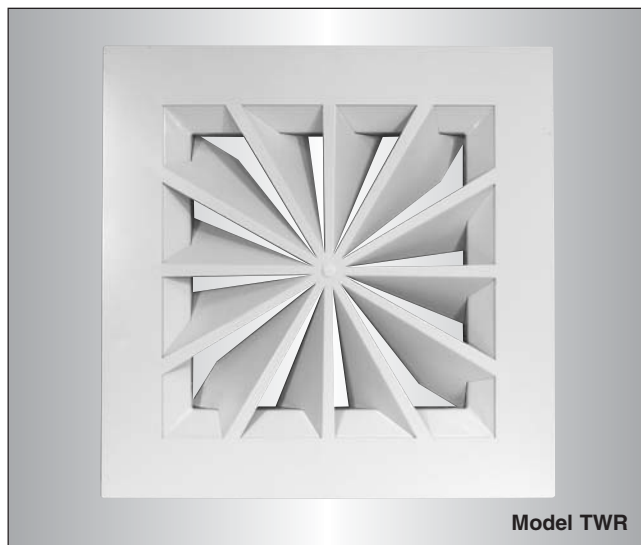
Aluminum Construction – Model ARNSA

See Page D84

#### Fixed Pattern Two Cone

Steel Construction – Model RNS2

See Page D89



Model TWR

## "Twister" High Induction Stamped Face

The "Twister" diffuser is engineered to optimize air distribution effectiveness. This next generation diffuser has a high induction, 360° swirl pattern for a superior coanda effect. It is available for a 2' x 2' (600 x 600) ceiling module with a choice of five round neck sizes.

### "Twister"

Steel Construction – Model TWR

See Page D93



Models UNI, UNI-PD, 5000CTD

## Architectural Square

Designed with the architect in mind, the diffusers in this series are fashioned to blend in with most ceiling types in order to create the ultimate in aesthetic looks. Nailor has accomplished this whilst still offering a variety of diffuser designs that provide flexibility in both style, selection and engineering performance.

### Flat Panel

Steel Construction – Model UNI

See Page D97

Aluminum Construction – Model AUNI

See Page D97

Steel with Ceiling Tile – Model UNI-RC

See Page D99

### Downblast

Steel Fixed Perforated – Model UNI-PD

See Page D105

Steel Adjustable – Model UNI-AD

See Page D108

### Ceiling Tile Slot

Supply – Model Series 5000CTD

See Page D111

Return – Model Series 5000RCTD

See Page D111

### Plaque Face

Steel Construction – Model 6600

See Page D117

### Plaque Face with Perimeter Slots

Steel Construction – Model 66UNI

See Page D122

## Round

Nailor's round diffusers are available in steel or aluminum construction, with adjustable or fixed patterns. Included in this series of diffusers is a 'Plaque' style for architectural ceilings and a 'Downblast' type for high ceiling areas.

### Adjustable Horizontal Pattern

Steel Construction – Model RNR

See Page D125

Aluminum Construction – Model ARNR

See Page D125

### Two Position Horizontal/Vertical Pattern

Aluminum Construction – Model 6300

See Page D129

### Fully Adjustable Horizontal/Vertical Pattern

Aluminum Construction – Model 6300R

See Page D129

### Plaque Face Horizontal Pattern

Steel Construction – Model R-UNI

See Page D132

### Downblast Adjustable Horizontal/Vertical Pattern

Steel Construction – Model RDB

See Page D135



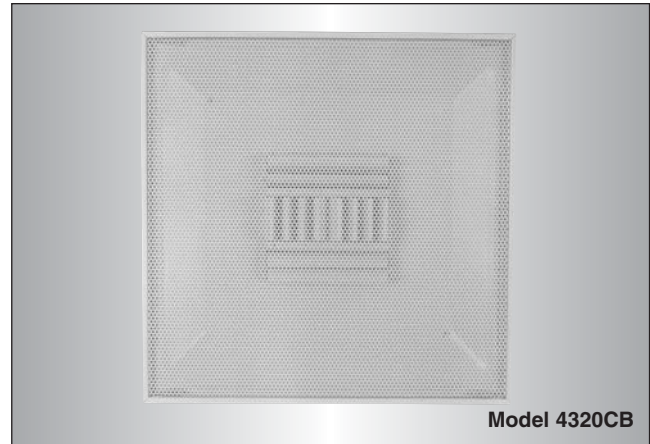
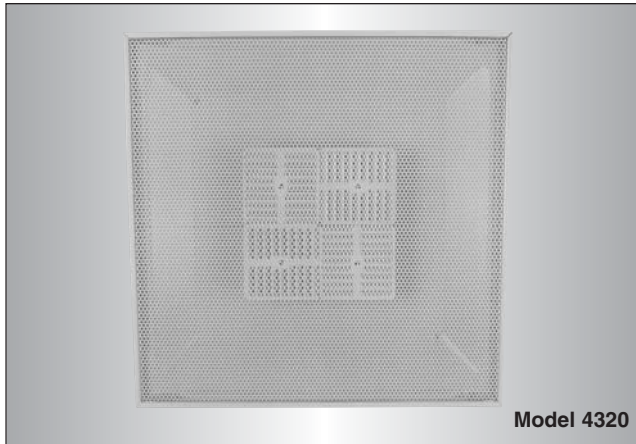
Models R-UNI, RDB, RNR



## Perforated Ceiling Diffusers

Nailor manufactures a full range of supply air and matching return air Perforated Ceiling Diffusers. The perforated face is available in both corrosion-resistant steel and aluminum, with 3/16" (5) diameter holes on 1/4" (6) staggered centers, providing 51% free area. As standard, backpans are available in corrosion-resistant steel with an option of aluminum, and some premium models are available with extruded aluminum frames. The diffusers can be selected to suit most common ceiling types, and are available with both flush and drop face styles. A variety of pattern controllers and deflector core styles are offered, allowing for a selection to be made based upon style, performance, and budgetary considerations. Match the supply air with the corresponding return air and the results will be a smooth, aesthetically balanced ceiling appearance.

### Supply Air



D

CEILING DIFFUSERS

### Adjustable Pattern Deflectors on Face

The stamped deflectors for this series of models are mounted in a 4-way discharge pattern on the rear of the perforated face and can be easily field adjusted to a 1, 2, or 3-way pattern. These diffusers are available with round or square necks. For the matching return, see Model Series 4360/4365.

#### Flush Face

Steel – Model 4320

See Page D138

Aluminum Face – Model 4320A

See Page D138

Aluminum – Model 4320AA

See Page D138

#### Drop Face

Steel – Model 4325

See Page D138

Aluminum Face – Model 4325A

See Page D138

Aluminum – Model 4325AA

See Page D138

### Curved Blade Pattern Controllers

The curved blade pattern controllers are individually adjustable and available as standard in a 4-way discharge pattern. The blades are mounted directly beneath the neck of the diffuser. A 1, 2, or 3-way discharge pattern is available as an option. These diffusers are offered with round or square necks. For the matching return, see Model Series 4360/4365.

#### Flush Face

Steel – Model 4320CB

See Page D148

Aluminum Face – Model 4320CBA

See Page D148

Aluminum – Model 4320CBAA

See Page D148

#### Drop Face

Steel – Model 4325CB

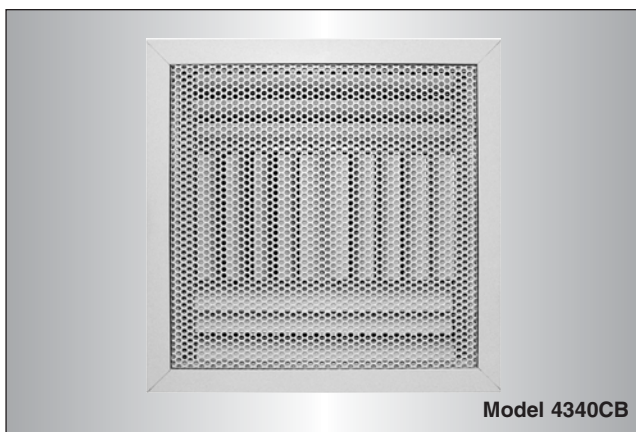
See Page D148

Aluminum Face – Model 4325CBA

See Page D148

Aluminum – Model 4325CBAA

See Page D148



### Full Face Curved Blade Pattern Controllers

This grille frame style, full face diffuser features curved blade pattern controllers with extruded aluminum frames and blades, and a perforated face that is offered in either corrosion-resistant steel or aluminum. The curved blade pattern controllers are individually adjustable and are in a 4-way discharge pattern as standard. A 1, 2, or 3-way discharge pattern is available as an option. These diffusers are available with square necks only. For the matching return, see Model Series 4340R.

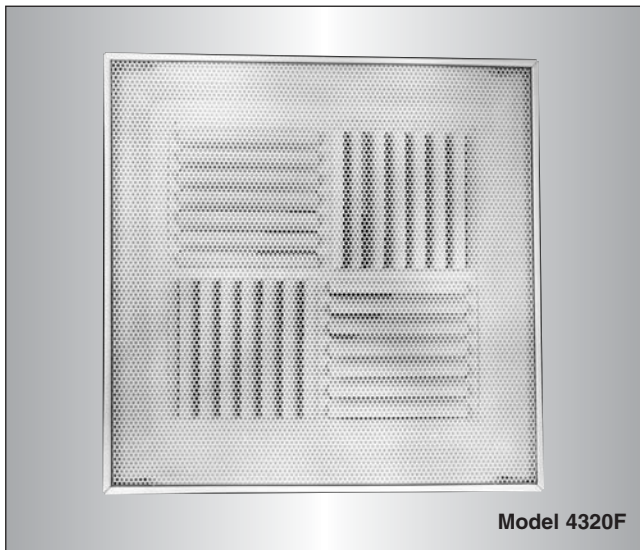
#### Flush Face

Steel Face – Model 4340CB

See Page D156

Aluminum – Model 4340CBA

See Page D156



Model 4320F

### Fixed 4-way Pattern

The single heavy gauge stamped deflector in this series has a fixed 4-way discharge pattern. This ensures the air pattern and performance remain constant. These diffusers are available with round or square necks. For the matching return, see Model Series 4360/4365.

#### Flush Face

Steel – Model 4320F

See Page D159

Aluminum Face – Model 4320FA

See Page D159

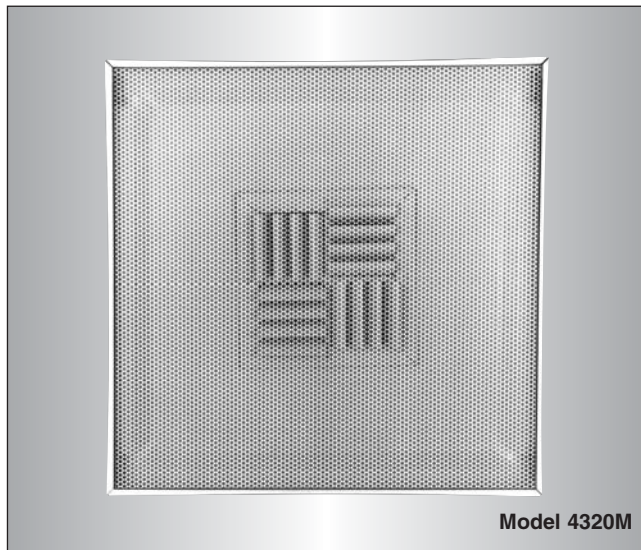
#### Drop Face

Steel – Model 4325F

See Page D159

Aluminum Face – Model 4325FA

See Page D159



Model 4320M

### Modular Core, Square Neck

This perforated diffuser has four individual, corrosion-resistant steel, spring-loaded modular pattern controllers that are mounted in the neck of the diffuser. They are shipped in a 4-way discharge pattern and can easily be field adjusted to provide a 1, 2, or 3-way discharge pattern. These diffusers are available with square necks. For the matching return, see Model Series 4360/4365.

#### Flush Face

Steel – Model 4320M

See Page D164

Aluminum Face – Model 4320MA

See Page D164

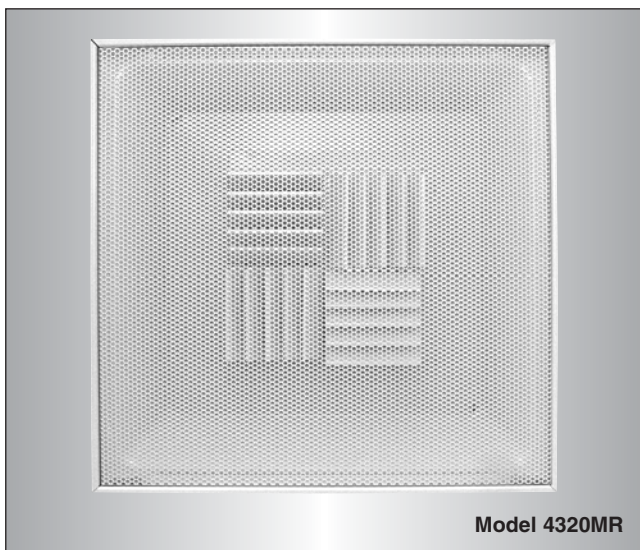
#### Drop Face

Steel – Model 4325M

See Page D164

Aluminum Face – Model 4325MA

See Page D164



Model 4320MR

### Modular Core, Round Neck, Low Profile

This model has a low profile backpan that includes an integral round neck. It incorporates four individual, corrosion-resistant steel, spring loaded modular pattern controllers that are mounted inside the backpan. The modular cores are shipped in a 4-way pattern and can easily be field adjusted to provide a 1, 2, or 3-way discharge pattern. These diffusers are available with round necks only. For the matching return, see Model Series 4360/4365.

#### Flush Face

Steel – Model 4320MR

See Page D169

Aluminum Face – Model 4320MRA

See Page D169

#### Drop Face

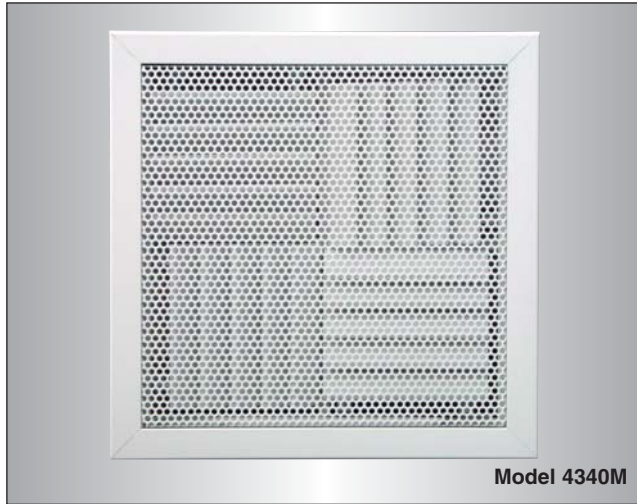
Steel – Model 4325MR

See Page D169

Aluminum Face – Model 4325MRA

See Page D169





Model 4340M

### Full Face Modular Core

This grille frame style, full face diffuser, features an extruded aluminum frame with a corrosion-resistant steel modular core. The modular core is shipped in a 4-way pattern and can easily be field adjusted to provide a 1, 2, or 3-way pattern. These diffusers are available with square necks only. For the matching return, see Model Series 4340R.

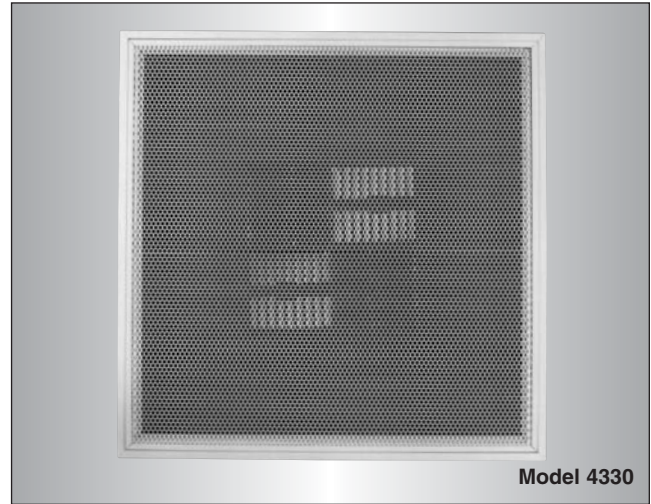
### Flush Face

Steel Face – Model 4340M

Aluminum Face – Model 4340MA

See Page D174

See Page D174



Model 4330

### Premium, Adjustable Deflectors on Face

The perforated diffusers in this series have an extruded aluminum frame with a narrow border that is visible within the T-Bar module. The stamped steel deflectors are mounted in a 4-way discharge pattern and can be easily field adjusted to a 1, 2 or 3-way pattern. The diffusers are available with round or square necks. For the matching return, see Model Series 4330R.

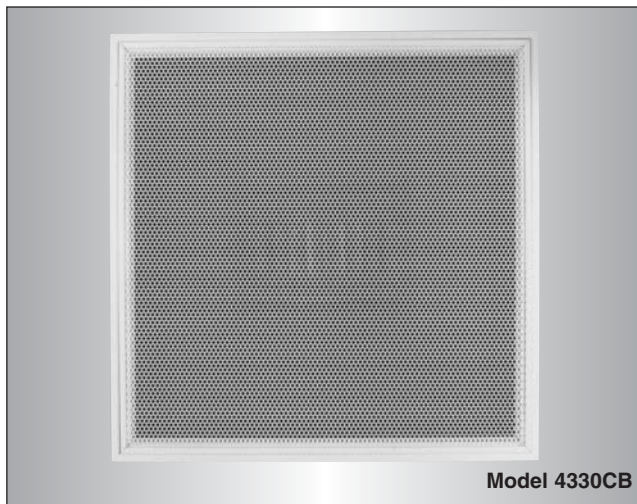
### Flush Face

Steel Face – Model 4330

Aluminum Face – Model 4330A

See Page D177

See Page D177



Model 4330CB

### Premium, Curved Blade Pattern Controllers

The perforated diffusers in this series have an extruded aluminum frame with a narrow border that is visible within the T-Bar module. The extruded aluminum curved blade pattern controllers are individually adjustable and are in a 4-way discharge pattern as standard. A 1, 2, or 3-way discharge pattern is available as an option. For the matching return, see Model 4330R.

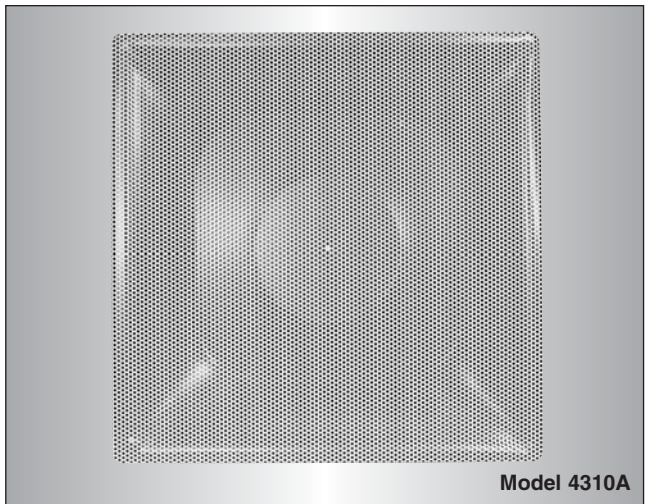
### Flush Face

Steel Face – Model 4330CB

Aluminum Face – Model 4330CBA

See Page D185

See Page D185



Model 4310A

### All Aluminum for MRI Rooms

This diffuser is 100% aluminum and can be used for MRI rooms. It features a smooth, contoured wrap-around perforated face. The supply air diffuser includes a round disc pattern deflector that provides a true 360° radial horizontal air pattern. The matching return air diffuser is suitable for ducted return applications.

### Flush Face

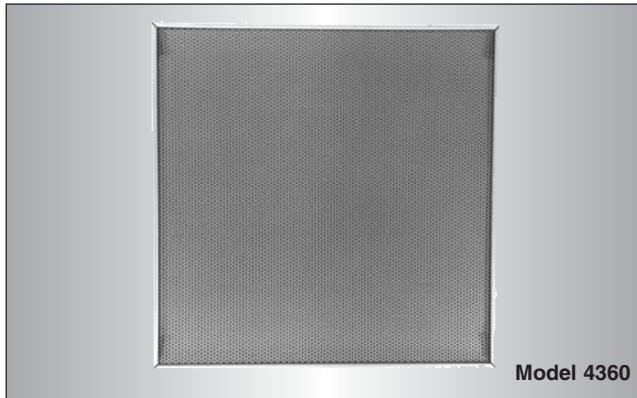
Supply Air – Model 4310A

Return Air – Model 4310AR

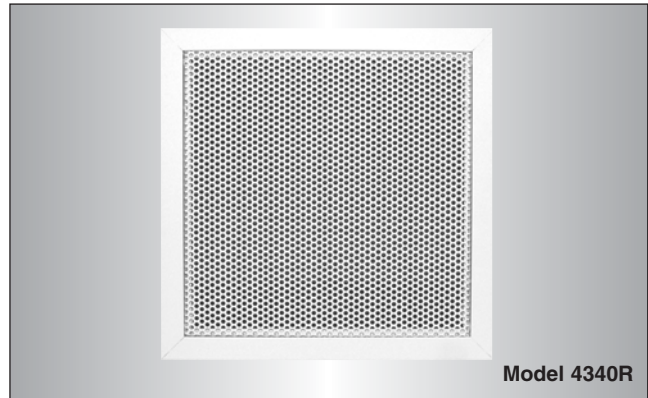
See Page D191

See Page D191

## Return Air



Model 4360



Model 4340R

### Standard Backpan Design

This perforated return diffuser is designed with a backpan that allows for both ducted and non-ducted applications. Available with a round or square neck for ducted applications and a full face design, square neck for either ducted or non-ducted applications. See Model Series 4320/4325, 4320CB/4325CB, 4320F/4325F and 4320M/4325M for the matching supply air diffusers.

#### Flush Face

Steel – Model 4360

See Page D194

Aluminum Face – Model 4360A

See Page D194

Aluminum – Model 4360AA

See Page D194

#### Drop Face

Steel – Model 4365

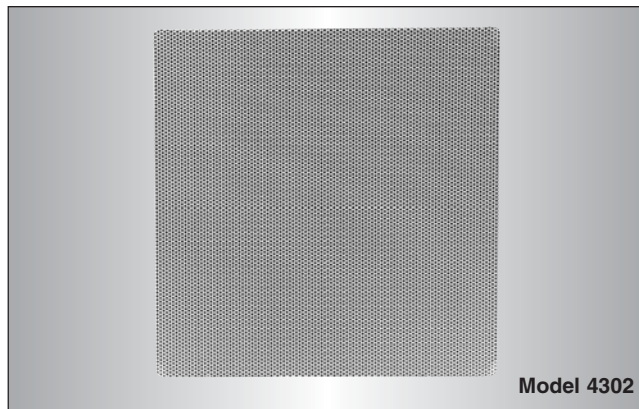
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Aluminum Face – Model 4365A

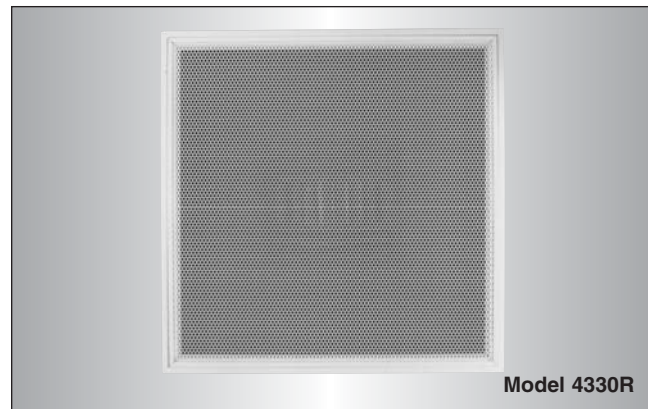
See Page D194

Aluminum – Model 4365AA

See Page D194



Model 4302



Model 4330R

### Panels

This economical perforated return panel is for use in a ductless return or as an exhaust grille in exposed grid T-Bar ceiling systems. When installed, the appearance matches that of the 4320/4325, 4320CB/4325CB, 4320F/4325F and 4320M/4325M supply diffusers.

#### Flush Face

Steel – Model 4302

See Page D203

Aluminum – Model 4302A

See Page D203

#### Drop Face

Steel – Model 4302-DF

See Page D203

#### Fineline®

Steel – Model 4302-F

See Page D203

### Premium

This perforated return has an extruded aluminum frame with a narrow border that is visible within the T-Bar module. See Model Series 4330 and 4330CB for the matching supply air diffusers.

#### Flush Face

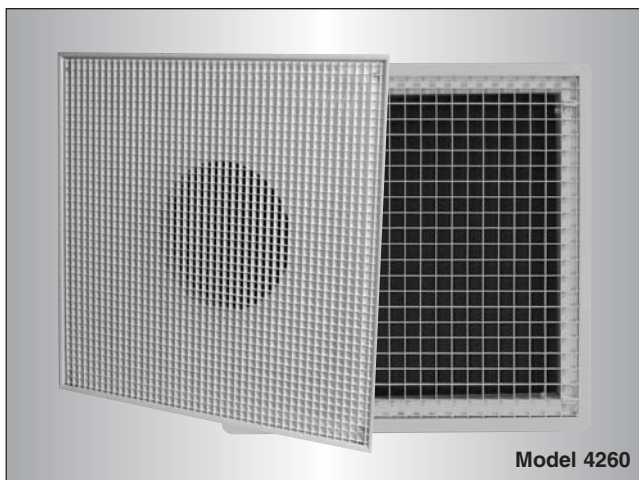
Steel Face – Model 4330R

See Page D206

Aluminum Face – Model 4330RA

See Page D206





Model 4260

## Eggcrate Return

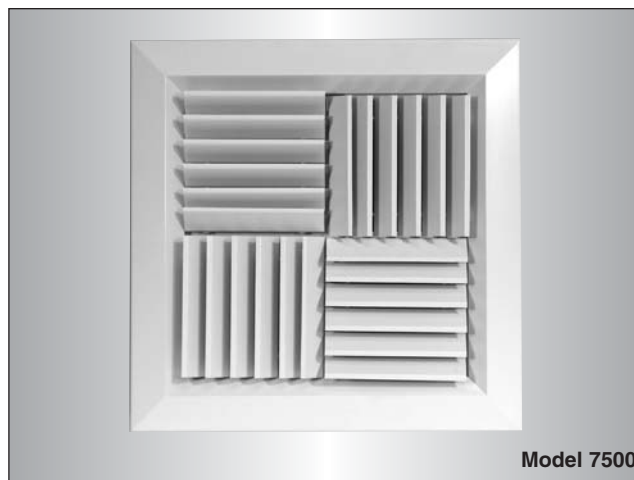
This aluminum face return diffuser features 1/2" x 1/2" x 1/2" (13 x 13 x 13) eggcrate that provides a high free area. It is offered with either a round or square neck for ducted return applications. The backpan or frame is available in both corrosion-resistant steel and aluminum construction.

Steel Frame/Backpan – Model 4260

See Page D210

Aluminum – Model 4260AA

See Page D210



Model 7500

## Modular Core

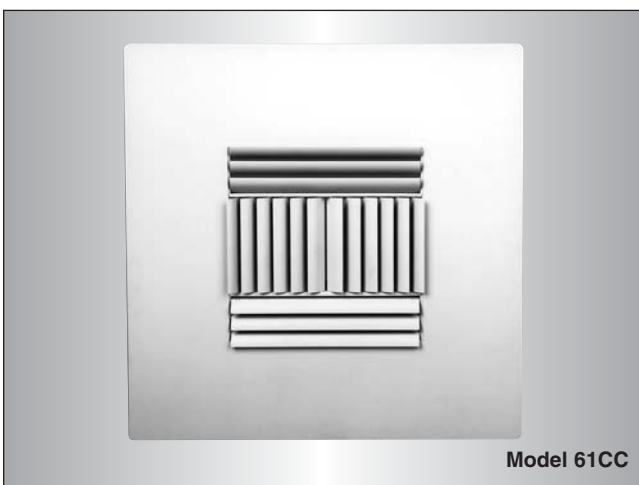
This steel diffuser has four individual, corrosion-resistant steel, spring-loaded modular pattern controllers. The pattern controllers are shipped in a 4-way discharge pattern and can easily be field adjusted to provide a 1, 2, or 3-way discharge pattern. They are available with square necks and optional round transitions.

### Modular Core

Steel – Model 7500

See Page D214

Suffix '-O' adds a steel OBD.



Model 61CC

## Curved Blade

The curved blade deflectors for this diffuser are individually adjustable and integrated in a modular sized panel to suit many ceiling systems. If ordered with directional vanes a 1 or 2-way discharge pattern is available. If directional vanes are not required, the curved blade deflectors are offered in a 1, 2, 3, or 4-way discharge pattern.

### Steel Construction

Directional Vanes – Model 61CCD

See Page D220

No Directional Vanes – Model 61CC

See Page D220

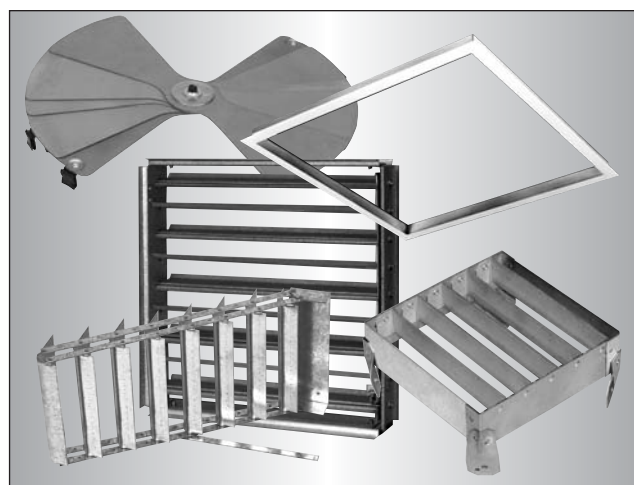
### Aluminum Construction

Directional Vanes – Model 51CCD

See Page D220

No Directional Vanes – Model 51CC

See Page D220



## Options & Accessories

Nailor offers an extensive selection of accessories for ceiling diffusers. Air balancing devices, air extractors and a selection of mounting frames are several of the accessories available.

### Options

Mounting Frames

See Page D227

Options

See Page D228

Finishes

See Page D228

### Accessories

Air Balancing Devices

See Page D229

Volume Extractors

See Page D234

## EXCLUSIVE WARRANTY FOR NAILOR STEEL GRILLES, REGISTERS AND DIFFUSERS

LIMITED WARRANTY – SERIES 61C, 6100, 61EC, 61F, RNS, RNS2,  
UNI, 4300, 6500, 7500 AND 61CC

Nailor Industries Inc. ('Nailor') warrants to the original and each subsequent owner of a new Nailor Series Grille, Register or Ceiling Air Diffuser in the model series titled above, constructed of corrosion-resistant steel that should rust become visible on the exposed portion of any individual product covered by this agreement Nailor will replace the rusted unit. Any diffuser affected by chemicals or misuse, including, without limitation, the failure to perform reasonable and necessary maintenance, will not be covered by this warranty. This warranty is for sixty (60) months from the date of the shipment by Nailor.

This warranty gives you specific legal rights and you may also have other rights which vary from state to state.

The rusted unit will be shipped by the owner at its cost to Nailor for replacement. The cost of the replacement, including the cost of shipment to the owner, but excluding any costs for either the removal or preparation for shipment of the rusted unit and the re-installation of the replacement unit, will be borne by Nailor. A reasonable time should be allowed after shipment to Nailor for the replacement of the rusted unit.

***This is the only warranty given with the purchase. Any warranties implied by law are limited to sixty (60) months from the date of shipment by Nailor. Nailor neither assumes nor authorizes any person to assume for it any other liability in connection with any diffuser covered by this agreement.***

***No payment or other compensation will be made for indirect or consequential damage such as, damage or injury to person or property or loss of revenue or profit which might be paid, incurred or sustained by reason of the use or inability to use a Nailor product listed above, even if such loss or damage could have been foreseen by Nailor.***

Some states do not allow the exclusion of limitation of incidental or consequential damages or limitation on how long an implied warranty lasts, so the above may not apply to you.



## SQUARE AND RECTANGULAR PATTERN CEILING DIFFUSERS

- LOUVERED FACE
- HIGH CAPACITY
- SQUARE, RECTANGULAR OR ROUND NECKS

### Steel Models:

**6500 Fixed Pattern**

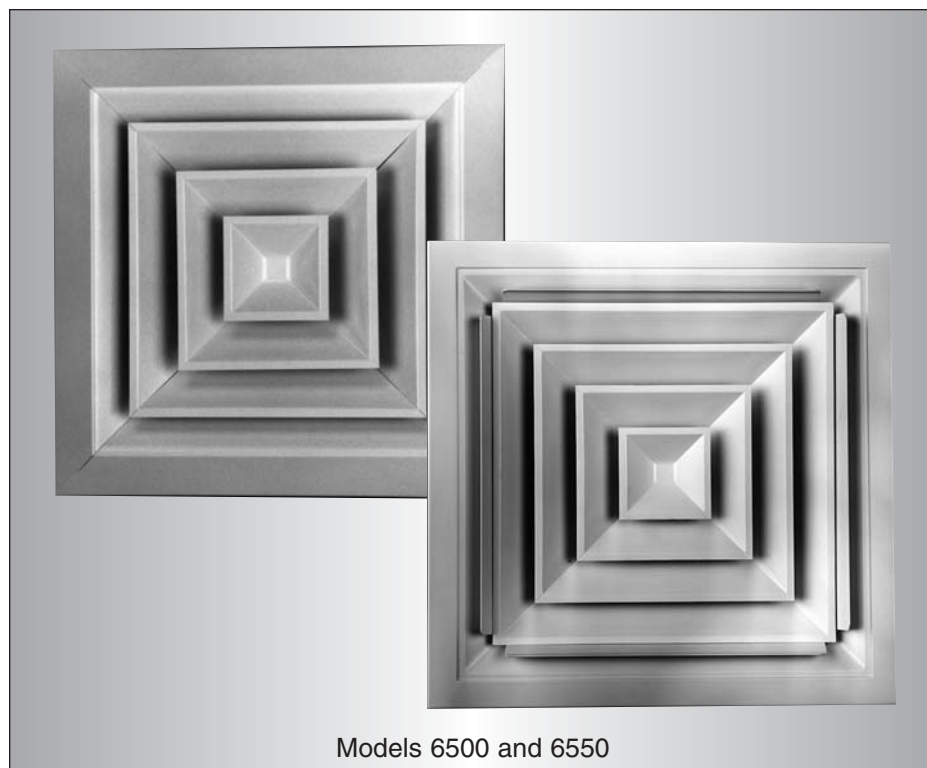
**6550 Adjustable Pattern**

### Aluminum Models:

**6200 Fixed Pattern**

**6250 Adjustable Pattern**

- Suffix '-O' adds a steel opposed blade damper
- Suffix '-OA' adds an aluminum opposed blade damper (available on aluminum models only)



Models 6500 and 6550

The **Nailor Model Series 6500 and 6200 Pattern Ceiling Diffusers** have been specially designed to provide a high capacity louvered face directional diffuser that can supply large volumes of air at relatively low sound levels and pressure drops. An engineered blade design with a 1/4" (6) horizontal lip on all angular discharge louvers creates 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 airflow rates and ensure draft free air distribution.

Available with a wide variety of core styles and neck sizes, a combination can be selected to suit a specified air pattern and deliver the desired volume of air to suit any particular requirement. Many frame types are also available to suit almost any mounting condition including surface mount (flat, beveled or deep drop face) and T-Bar panel types (Standard 1" (25), Fineline®, Spline, Tegular or Metal Snap-in). These models therefore offer a great degree of design flexibility.

The **Nailor Model Series 6550 and 6250 Adjustable Pattern Ceiling Diffusers** offer the same features as the 6500 and 6200 Series, however, they feature four hinged, individually adjustable deflecting vanes. These vanes allow air pattern adjustment from horizontal to vertical and further enhance the flexibility of the diffuser. Ideal for applications with higher ceiling heights or for heating applications to minimize stratification.

### FEATURES:

- Spring loaded core. Removable without the use of tools.
- High neck collars for solid connection.
- Secure core attachment.
- A wide variety of frame styles to suit most ceiling applications.
- Optional extended panels to suit modular ceiling systems.
- Engineered air diffusion patterns for 1, 2, 3 or 4-way blow in a wide selection of square and rectangular neck sizes (see page D16).
- Clean lines with no unsightly visible screws.
- Square-to-round transition adaptors are available (SR option).

- Optional opposed blade damper with screwdriver slot operator.

**Material:** **6500 Series** – Corrosion-resistant steel. **6200 Series** – Heavy-gauge aluminum extrusions.

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

### AVAILABLE SIZES:

Unit Size is determined by duct dimensions. Diffuser necks are undersized to suit ductwork.

Duct Sizes are available in 3" (76) increments.

### Minimum size:

6" x 6" (152 x 152) square neck. 9" x 6" (229 x 152) rectangular neck (most core styles).

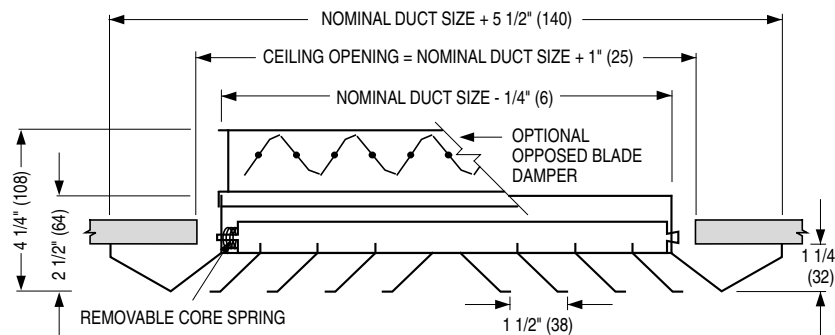
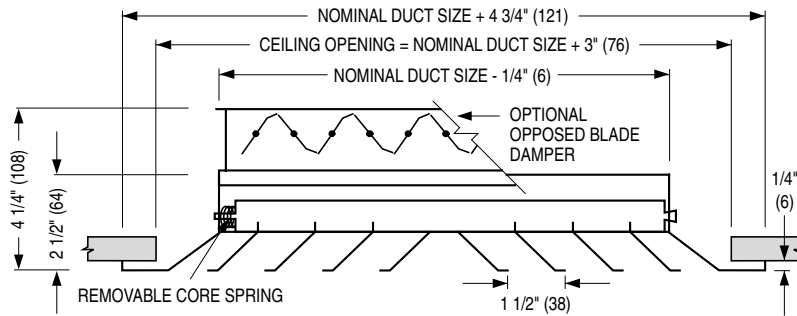
### Maximum size:

Types S, B and D: 36" x 36" (914 x 914).

Types L, SP, TL, M and F: see page D14.

## Dimensional Data and Frame Types

### Model Series 6500 and 6200



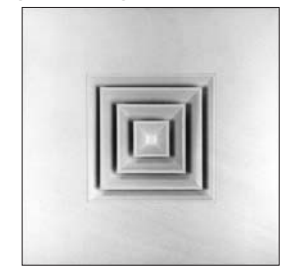
**Type S - Surface Mount Frame**



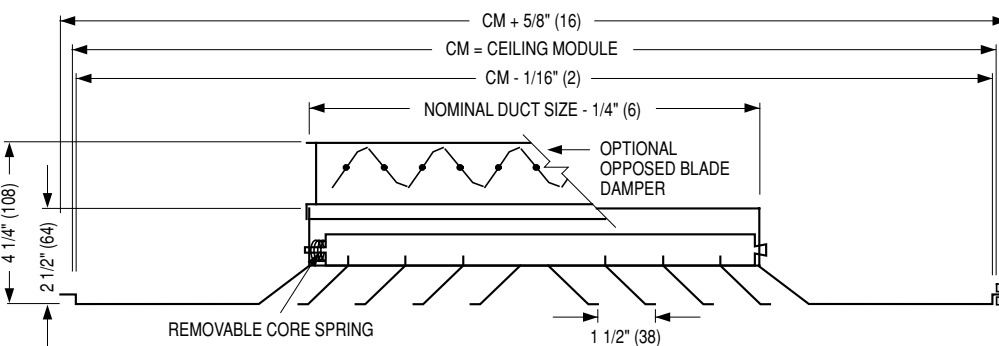
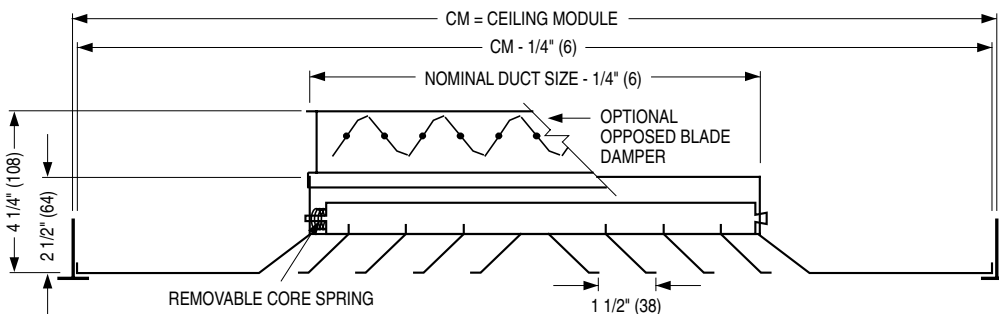
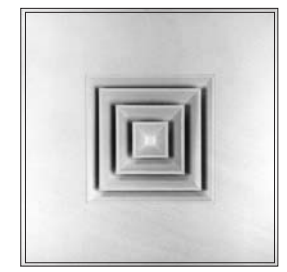
**Type B - Beveled Drop Face Frame**



**Type L - Lay-In T-Bar Frame**



**Type SP - Spline Frame**



SPLINE TYPE DIFFUSER FOR ONE-DIRECTIONAL EXPOSED T-BAR LAY-IN GRID OR FOR CONCEALED T-BAR GRID.  
(SPLINES ON TWO OPPOSITE SIDES. STEEL LIFT BRACKETS ON THE OTHER TWO SIDES).

### Extended Panel Diffusers

#### Frame Types L, SP, TL, M and F

If the ceiling module is more than 3" (76) larger than the neck size of the diffuser in either or both dimensions, a steel module-sized extended panel will be added. Aluminum is available as an option.

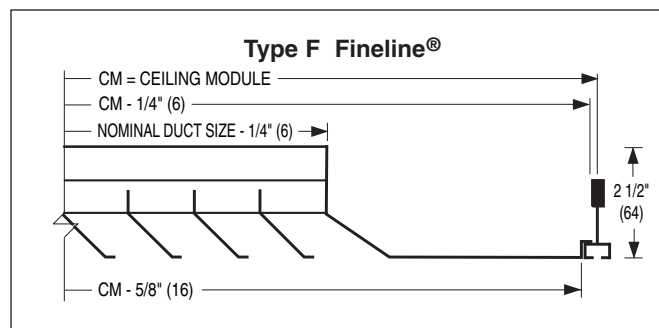
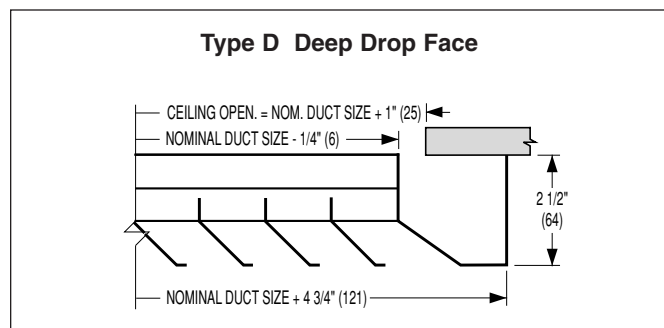
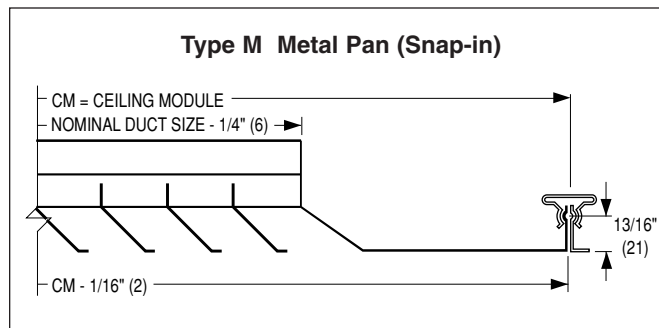
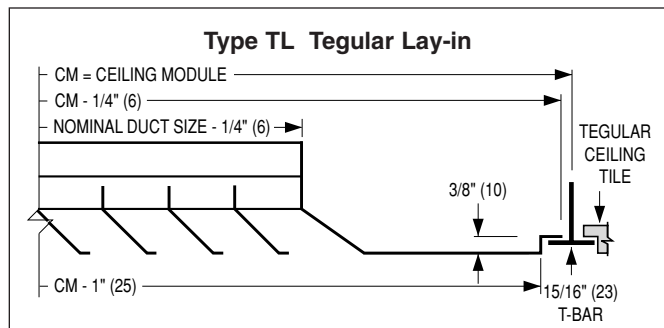
See the table at right for the maximum duct size for each module size.

**TABLE 1**

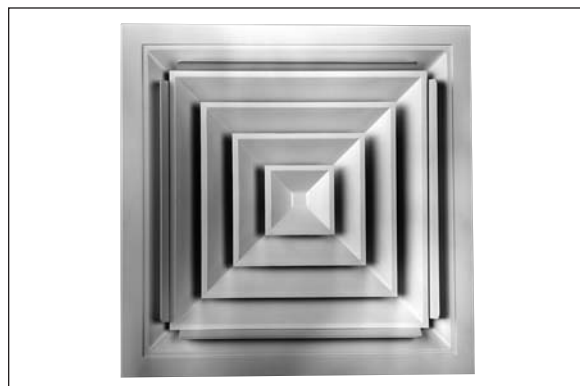
| Ceiling Module Size         | Maximum Duct Size Frames L, SP and M | Maximum Duct Size Frames TL and F |
|-----------------------------|--------------------------------------|-----------------------------------|
| <b>12 x 12 (305 x 305)</b>  | 9 x 9 (229 x 229)                    | 6 x 6 (152 x 152)                 |
| <b>20 x 20 (508 x 508)</b>  | 15 x 15 (381 x 381)                  | —                                 |
| <b>24 x 12 (610 x 305)</b>  | 21 x 9 (533 x 229)                   | 18 x 6 (457 x 152)                |
| <b>24 x 24 (610 x 610)</b>  | 21 x 21 (533 x 533)                  | 18 x 18 (457 x 457)               |
| <b>48 x 24 (1219 x 610)</b> | 45 x 21 (1143 x 533)                 | —                                 |

Dimensions are in inches (mm).

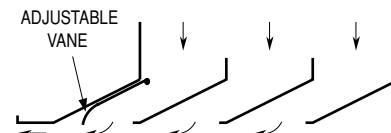
## Dimensional Data and Frame Types Model Series 6500 and 6200



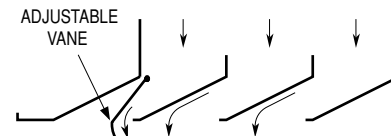
## Adjustable Discharge Pattern Models 6550 & 6250



**Horizontal Pattern**  
Adjustable Vane  
Open Position



**Vertical Pattern**  
Adjustable Vane  
Closed Position



**Models 6550 and 6250** Adjustable Diffusers provide continuous adjustment – from horizontal to vertical – on each face of the diffuser. They feature four hinged, independently adjustable control vanes attached to the outer cone.

### FEATURES:

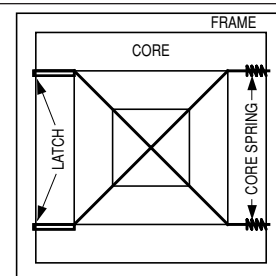
- Unit size is determined by duct 24" x 24" (610 x 610) neck size.
- Square duct sizes are recommended.
- Discharge patterns on all sides are independently adjustable.
- No tools required to adjust pattern.
- Can be adjusted from diffuser face without removing core.
- Square or rectangular 1, 2, 3 or 4-way core style diffusers up to and including

### REMOVABLE CORE

- Standard feature of **Models 6500, 6550, 6200 and 6250.**
- Engineered design allows easy removal without the need for tools, yet remains securely in place.

### HOW TO REMOVE "REMOVABLE" CORE

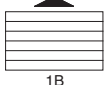
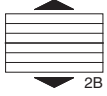
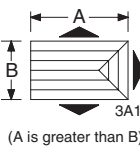
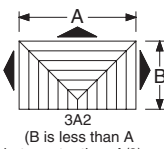
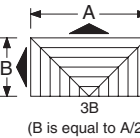
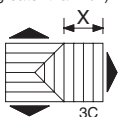
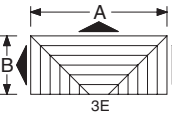
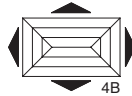
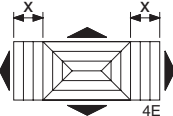
To remove diffuser core, lift the complete core assembly to disengage the latch, push the core against the core spring, pull down the core slightly and remove. Reverse procedure to re-install.



## Standard Core Styles Model Series 6500 and 6200

Contact factory for special core configurations.

### SIZES AVAILABLE

|                      | SQUARE                                                                                                                                                                                | RECTANGULAR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | CORE                                     | MINIMUM                                                                                                                                                                | MAXIMUM                                                                                                                                                                            |
|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| →<br>1-WAY           | <br>1S                                                                                               |  <br>1A 1B                                                                                                                                                                                                                                                                                                                                                                                                      | 1S<br>1A<br>1B                           | 6 x 6<br>(152 x 152)<br>9 x 6<br>(229 x 152)<br>9 x 6<br>(229 x 152)                                                                                                   | 36 x 36<br>(914 x 914)<br>36 x 33<br>(914 x 838)<br>36 x 33<br>(914 x 838)                                                                                                         |
| ↕<br>2-WAY           | <br>2S                                                                                               |  <br>2A 2B                                                                                                                                                                                                                                                                                                                                                                                                      | 2S<br>2A<br>2B                           | 6 x 6<br>(152 x 152)<br>9 x 6<br>(229 x 152)<br>9 x 6<br>(229 x 152)                                                                                                   | 36 x 36<br>(914 x 914)<br>36 x 33<br>(914 x 838)<br>36 x 33<br>(914 x 838)                                                                                                         |
| ↗<br>2-WAY<br>CORNER | <br>2G                                                                                               |  <br>2C 2D<br> <br>2E 2F                                                                                                                                                                                                                      | 2G<br>2C<br>2D<br>2E<br>2F               | 6 x 6<br>(152 x 152)<br>9 x 6<br>(229 x 152)<br>9 x 6<br>(229 x 152)<br>9 x 6<br>(229 x 152)<br>9 x 6<br>(229 x 152)                                                   | 36 x 36<br>(914 x 914)<br>36 x 33<br>(914 x 838)<br>36 x 33<br>(914 x 838)<br>36 x 33<br>(914 x 838)<br>36 x 33<br>(914 x 838)                                                     |
| ↗↘<br>3-WAY          | <br>3A<br><br>3H |  <br>3A1 3A2<br>(A is greater than B) (B is less than A but greater than A/2)<br> <br>3B 3C<br>(B is equal to A/2)<br><br>3E<br>(B is less than A/2) | 3A<br>3A1<br>3A2<br>3B<br>3C<br>3E<br>3H | 6 x 6<br>(152 x 152)<br>9 x 6<br>(229 x 152)<br>9 x 6<br>(229 x 152)<br>12 x 6<br>(305 x 152)<br>9 x 6<br>(229 x 152)<br>15 x 6<br>(381 x 152)<br>6 x 6<br>(152 x 152) | 36 x 36<br>(914 x 914)<br>36 x 33<br>(914 x 838)<br>36 x 33<br>(914 x 838)<br>36 x 18<br>(914 x 457)<br>36 x 33<br>(914 x 838)<br>36 x 15<br>(914 x 381)<br>36 x 36<br>(914 x 914) |
| ↗↘↗<br>4-WAY         | <br>4A                                                                                             |  <br>4B 4C<br><br>4E                                                                                                                                                                                                                                                                                                     | 4A<br>4B<br>4C<br>4E                     | 6 x 6<br>(152 x 152)<br>9 x 6<br>(229 x 152)<br>12 x 6<br>(305 x 152)<br>15 x 6<br>(381 x 152)                                                                         | 36 x 36<br>(914 x 914)<br>36 x 33<br>(914 x 838)<br>36 x 30<br>(914 x 762)<br>36 x 27<br>(914 x 686)                                                                               |

Dimensions are in inches (mm).

### Notes:

1. Duct sizes are available in 3" (76) increments.
2. Unless otherwise specified, the "x" dimension on 3C and 4E patterns will be such that cataloged flow division is obtained.
3. Patterns are shown in plan view (looking down into inlet).



## HOW TO SPECIFY OR TO ORDER

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

### Pattern Ceiling Diffusers – Model Series 6500 and 6200

**6500 - O - 9 x 9 - 24 x 24 - L - AW - 4A - SR08**

#### MODEL

##### Steel

- Fixed Pattern 6500
- Adjustable Pattern 6550

##### Aluminum

- Fixed Pattern 6200
- Adjustable Pattern 6250

#### DAMPER

- No Damper (default) —
- Opposed Blade (steel) O
- Opposed Blade (alum.) OA

#### NECK SIZE (W x H)

#### PANEL SIZE (TYPES L, SP, M, TL, F AND DL ONLY)

| Imperial (inches) | Metric (mm) |
|-------------------|-------------|
| - 12 x 12         | 300 x 300   |
| - 20 x 20         | 500 x 500   |
| - 24 x 12         | 600 x 300   |
| - 24 x 24         | 600 x 600   |
| - 48 x 24         | 1200 x 600  |

#### FRAME TYPE

- Surface Mount Flat S
- T-Bar Lay-In L
- Spline SP
- Surface Mount Beveled B
- Metal Pan M
- Tegular (Drop Face) TL
- Fineline® F
- Surface Mount (Deep Drop) D
- Dropped Face Lay-in DL

#### Note:

- Consult text as to limitations of panel, neck size and core style combinations.

#### ACCESSORIES

- None (default) —
- Square to Round Transition Collar (04 thru 20 specify) SR
- Earthquake Tabs EQT
- Alum. extended panel (6200 & 6250 models only) PLA

#### AIR BALANCING DEVICES

##### Rectangular Neck:

- Equalizing Grid (long) EGL
- Equalizing Grid (short) EGS
- Damper/Equal. Grid (long) DEGL
- Damper/Equal. Grid (short) DEGS

##### Round Neck:

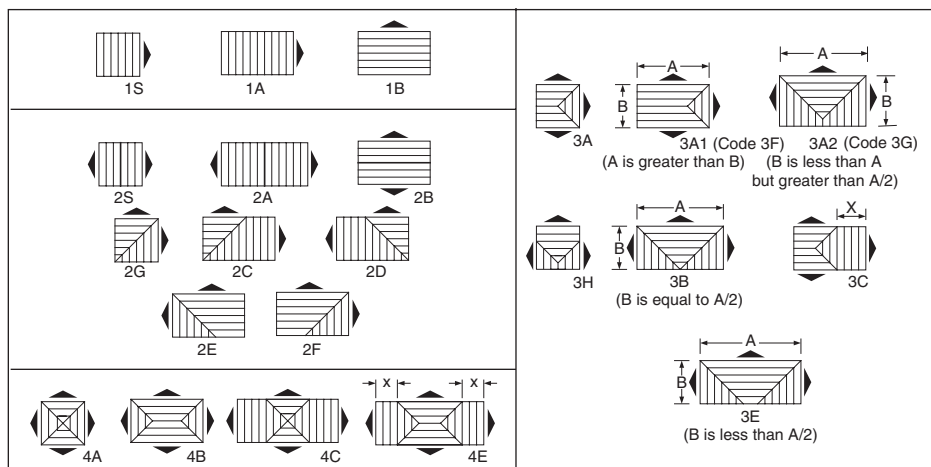
- Radial Sliding Blade Damper 4250
- Radial Opposed Blade Damper 4275
- Butterfly Damper 4675
- Equalizing Grid EGR
- Damper/Equalizing Grid DEGR

#### CORE STYLE (See Below).

#### FINISH

- Appliance White (default) AW
- Aluminum AL
- Special Custom Color SP

#### CORE STYLE CHART



D  
CEILING DIFFUSERS

#### SUGGESTED SPECIFICATION:

Furnish and install **Nailor Model** (select one) **6500/6550** (steel) or **6200/6250** (aluminum) **Pattern Ceiling Diffusers** of the sizes and capacities as shown on the plans and air distribution schedules. Model 6500 or 6200 shall incorporate fixed pattern discharge louvers for a horizontal throw pattern. Model 6550 or 6250 shall incorporate fixed pattern discharge louvers and adjustable vanes for a vertical or horizontal throw pattern. The entire core assembly shall be removable without the use of tools. The directional pattern shall be supplied as a 4, 3, 2, or 1-way discharge pattern as specified. The core is to be interchangeable with all other frame styles of equal size. The square or rectangular duct connection collar shall be an integral part of the frame assembly. The finish shall 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) shall be provided with all units

The manufacturer shall provide published performance data for the diffuser, which shall be tested in accordance with ANSI/ASHRAE Standard 70 – 1991.

## Performance Data

### Models 6500 and 6200 • Square Neck

| NOMINAL<br>NECK<br>SIZE              | BLOW<br>PATTERNS                    | NECK<br>VELOCITY<br>TP | 300<br>.033                  | 400<br>.058                  | 500<br>.090                  | 600<br>.130                  | 700<br>.177                  | 800<br>.231                  | 900<br>.293                  |
|--------------------------------------|-------------------------------------|------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
|                                      | RETURN FACTORS —SP=1.1 TP<br>NC + 1 | CFM<br>NC              | 75<br>—                      | 100<br>10                    | 125<br>17                    | 150<br>22                    | 175<br>26                    | 200<br>31                    | 225<br>35                    |
|                                      |                                     |                        | A B                          | A B                          | A B                          | A B                          | A B                          | A B                          | A B                          |
| 6<br>x<br>6<br><br>.25<br>SQ. FT.    | 4A                                  | CFM/SIDE<br>THROW, FT. | 19<br>4-5-8                  | 25<br>4-6-10                 | 31<br>6-8-10                 | 37<br>6-8-11                 | 44<br>8-9-12                 | 50<br>8-9-12                 | 56<br>9-10-13                |
|                                      | 3A                                  | CFM/SIDE<br>THROW, FT. | 19 28<br>4-5-8 5-8-11        | 25 38<br>4-6-10 6-9-12       | 31 47<br>6-8-10 8-10-14      | 37 56<br>6-8-11 8-11-15      | 44 66<br>8-9-12 9-12-16      | 50 75<br>8-9-12 9-12-17      | 56 85<br>9-10-13 10-13-18    |
|                                      | 2S  2G                              | CFM/SIDE<br>THROW, FT. | 37<br>8-9-12                 | 50<br>9-10-14                | 62<br>10-11-16               | 75<br>11-12-17               | 88<br>12-13-18               | 100<br>12-13-19              | 113<br>12-14-20              |
|                                      | 1S                                  | CFM/SIDE<br>THROW, FT. | 75<br>9-11-15                | 100<br>10-12-17              | 125<br>11-14-19              | 150<br>12-15-22              | 175<br>13-16-22              | 200<br>14-17-24              | 225<br>15-18-25              |
|                                      |                                     |                        |                              |                              |                              |                              |                              |                              |                              |
| 9<br>x<br>9<br><br>.56<br>SQ. FT.    | RETURN FACTORS —SP=1.2 TP<br>NC + 2 | CFM<br>NC              | 170<br>—                     | 225<br>14                    | 280<br>20                    | 340<br>26                    | 395<br>31                    | 450<br>35                    | 505<br>38                    |
|                                      |                                     |                        | A B                          | A B                          | A B                          | A B                          | A B                          | A B                          | A B                          |
|                                      | 4A                                  | CFM/SIDE<br>THROW, FT. | 42<br>6-8-12                 | 56<br>7-10-14                | 70<br>10-11-15               | 84<br>10-12-16               | 98<br>11-12-17               | 112<br>11-14-19              | 126<br>12-15-20              |
|                                      | 3A                                  | CFM/SIDE<br>THROW, FT. | 42 63<br>6-8-12 9-11-14      | 56 85<br>7-10-14 10-12-17    | 70 106<br>10-11-15 11-13-19  | 84 127<br>10-12-16 12-14-20  | 98 148<br>11-12-17 13-15-21  | 112 169<br>11-14-19 13-16-22 | 126 190<br>12-15-20 14-18-24 |
|                                      | 2S  2G                              | CFM/SIDE<br>THROW, FT. | 84<br>9-10-15                | 112<br>11-13-18              | 141<br>12-15-20              | 169<br>13-16-22              | 197<br>14-17-23              | 225<br>15-18-25              | 253<br>16-19-28              |
|                                      | 1S                                  | CFM/SIDE<br>THROW, FT. | 169<br>12-15-20              | 225<br>14-17-23              | 282<br>16-19-26              | 338<br>17-22-29              | 394<br>18-22-31              | 450<br>19-24-33              | 507<br>22-25-35              |
| 12<br>x<br>12<br><br>1.0<br>SQ. FT.  | RETURN FACTORS —SP=1.3 TP<br>NC + 4 | CFM<br>NC              | 300<br>10                    | 400<br>17                    | 500<br>23                    | 600<br>28                    | 700<br>33                    | 800<br>36                    | 900<br>39                    |
|                                      |                                     |                        | A B                          | A B                          | A B                          | A B                          | A B                          | A B                          | A B                          |
|                                      | 4A                                  | CFM/SIDE<br>THROW, FT. | 75<br>8-13-15                | 100<br>11-14-18              | 125<br>13-15-21              | 150<br>14-17-22              | 175<br>14-18-24              | 200<br>15-20-25              | 225<br>17-21-27              |
|                                      | 3A                                  | CFM/SIDE<br>THROW, FT. | 75 112<br>8-13-15 11-14-19   | 100 150<br>11-14-18 12-15-21 | 125 187<br>13-15-21 14-17-24 | 150 225<br>14-17-22 15-19-26 | 175 262<br>14-18-24 16-20-27 | 200 300<br>15-20-25 17-21-30 | 225 338<br>17-21-27 19-22-31 |
|                                      | 2S  2G                              | CFM/SIDE<br>THROW, FT. | 150<br>12-15-20              | 200<br>15-17-25              | 250<br>17-19-27              | 300<br>18-20-29              | 350<br>19-21-31              | 400<br>20-25-34              | 450<br>21-25-36              |
|                                      | 1S                                  | CFM/SIDE<br>THROW, FT. | 300<br>16-20-28              | 400<br>18-22-32              | 500<br>21-25-37              | 600<br>22-26-39              | 700<br>23-28-41              | 800<br>25-29-41              | 900<br>28-33-47              |
| 15<br>x<br>15<br><br>1.56<br>SQ. FT. | RETURN FACTORS —SP=1.8 TP<br>NC + 4 | CFM<br>NC              | 465<br>10                    | 625<br>19                    | 780<br>25                    | 935<br>30                    | 1090<br>33                   | 1250<br>39                   | 1400<br>41                   |
|                                      |                                     |                        | A B                          | A B                          | A B                          | A B                          | A B                          | A B                          | A B                          |
|                                      | 4A                                  | CFM/SIDE<br>THROW, FT. | 117<br>13-16-21              | 156<br>14-18-24              | 195<br>16-19-27              | 234<br>18-21-29              | 273<br>19-22-30              | 312<br>20-24-33              | 350<br>21-26-35              |
|                                      | 3A                                  | CFM/SIDE<br>THROW, FT. | 117 175<br>13-16-21 14-17-23 | 156 234<br>14-18-24 17-19-29 | 195 292<br>16-19-27 19-22-31 | 234 351<br>18-21-29 21-23-34 | 273 409<br>19-22-30 22-25-36 | 312 468<br>19-24-35 22-29-39 | 350 527<br>21-26-35 25-29-42 |
|                                      | 2S  2G                              | CFM/SIDE<br>THROW, FT. | 234<br>16-20-27              | 312<br>19-22-31              | 390<br>21-25-36              | 468<br>22-27-40              | 546<br>24-29-42              | 625<br>27-31-45              | 700<br>27-35-47              |
|                                      | 1S                                  | CFM/SIDE<br>THROW, FT. | 467<br>21-25-36              | 625<br>23-29-42              | 780<br>26-32-47              | 935<br>29-36-51              | 1090<br>30-39-55             | 1250<br>32-42-57             | 1400<br>36-44-61             |
| 18<br>x<br>18<br><br>2.25<br>SQ. FT. | RETURN FACTORS —SP=2.1 TP<br>NC + 6 | CFM<br>NC              | 675<br>12                    | 900<br>21                    | 1125<br>27                   | 1350<br>31                   | 1575<br>36                   | 1800<br>39                   | 2025<br>42                   |
|                                      |                                     |                        | A B                          | A B                          | A B                          | A B                          | A B                          | A B                          | A B                          |
|                                      | 4A                                  | CFM/SIDE<br>THROW, FT. | 168<br>15-19-25              | 225<br>17-20-29              | 281<br>19-24-32              | 337<br>20-25-36              | 394<br>22-27-37              | 450<br>24-29-41              | 506<br>25-31-43              |
|                                      | 3A                                  | CFM/SIDE<br>THROW, FT. | 168 253<br>15-19-25 17-22-29 | 225 338<br>17-20-29 20-25-33 | 281 422<br>19-24-32 23-27-38 | 337 506<br>20-25-36 25-32-42 | 394 590<br>22-27-37 26-32-45 | 450 675<br>24-29-41 27-35-48 | 506 760<br>25-31-43 32-36-51 |
|                                      | 2S  2G                              | CFM/SIDE<br>THROW, FT. | 337<br>19-23-32              | 450<br>22-26-38              | 562<br>24-30-43              | 675<br>26-31-46              | 787<br>30-34-49              | 900<br>30-35-53              | 1012<br>32-39-55             |
|                                      | 1S                                  | CFM/SIDE<br>THROW, FT. | 675<br>25-33-45              | 900<br>30-36-51              | 1125<br>34-42-58             | 1350<br>36-45-61             | 1575<br>39-48-66             | 1800<br>43-52-70             | 2025<br>46-55-75             |

For performance notes, see page D32.

## Performance Data

### Models 6500 and 6200 • Square Neck

| NOMINAL<br>NECK<br>SIZE              | BLOW<br>PATTERNS                    | NECK<br>VELOCITY<br>TP | 300<br>.033                   | 400<br>.058                   | 500<br>.090                    | 600<br>.130                    | 700<br>.177                    | 800<br>.231                    | 900<br>.293                     |
|--------------------------------------|-------------------------------------|------------------------|-------------------------------|-------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|---------------------------------|
| 21<br>x<br>21<br><br>3.06<br>SQ. FT. | RETURN FACTORS —SP=2.6 TP<br>NC + 8 | CFM<br>NC              | 915<br>14                     | 1225<br>22                    | 1530<br>28                     | 1835<br>32                     | 2140<br>37                     | 2450<br>40                     | 2750<br>43                      |
|                                      | 4A                                  | CFM/SIDE<br>THROW, FT. | 230<br>18-21-30               | 306<br>19-25-34               | 382<br>21-28-39                | 460<br>23-30-41                | 535<br>25-32-44                | 612<br>26-34-46                | 688<br>28-39-51                 |
|                                      | 3A                                  | CFM/SIDE<br>THROW, FT. | 230 345<br>15-19-26 20-25-34  | 306 460<br>17-22-29 23-28-39  | 382 573<br>19-25-34 26-31-45   | 460 688<br>20-26-36 28-34-50   | 535 802<br>22-28-39 29-36-53   | 612 918<br>23-29-40 34-39-56   | 688 1030<br>25-34-45 34-43-59   |
|                                      | 2S  2G                              | CFM/SIDE<br>THROW, FT. | 458<br>22-27-39               | 612<br>25-31-45               | 765<br>28-35-50                | 917<br>31-39-55                | 1070<br>32-42-59               | 1225<br>35-45-62               | 1375<br>39-48-66                |
|                                      | 1S                                  | CFM/SIDE<br>THROW, FT. | 917<br>29-37-51               | 1225<br>34-43-59              | 1530<br>39-50-67               | 1835<br>43-53-71               | 2140<br>46-56-77               | 2450<br>50-60-82               | 2750<br>53-64-88                |
| 24<br>x<br>24<br><br>4.0<br>SQ. FT.  | RETURN FACTORS —SP=2.7 TP<br>NC + 8 | CFM<br>NC              | 1200<br>15                    | 1600<br>23                    | 2000<br>29                     | 2400<br>33                     | 2800<br>37                     | 3200<br>41                     | 3600<br>44                      |
|                                      | 4A                                  | CFM/SIDE<br>THROW, FT. | 300<br>20-24-33               | 400<br>24-27-40               | 500<br>27-31-44                | 600<br>29-33-47                | 700<br>31-35-51                | 800<br>33-40-55                | 900<br>35-40-58                 |
|                                      | 3A                                  | CFM/SIDE<br>THROW, FT. | 300 450<br>20-24-33 23-28-39  | 400 600<br>24-27-40 26-31-46  | 500 750<br>27-31-44 29-36-52   | 600 900<br>29-33-47 31-38-56   | 700 1050<br>31-33-51 36-41-59  | 800 1200<br>33-40-55 36-43-64  | 900 1350<br>35-40-58 39-47-67   |
|                                      | 2S  2G                              | CFM/SIDE<br>THROW, FT. | 600<br>25-33-45               | 800<br>30-36-51               | 1000<br>34-42-58               | 1200<br>36-45-61               | 1400<br>39-48-66               | 1600<br>43-52-70               | 1800<br>46-55-75                |
|                                      | 1S                                  | CFM/SIDE<br>THROW, FT. | 1200<br>35-40-59              | 1600<br>38-48-67              | 2000<br>45-54-77               | 2400<br>48-58-82               | 2800<br>51-62-90               | 3200<br>54-67-93               | 3600<br>59-70-101               |
| 30<br>x<br>30<br><br>6.25<br>SQ. FT. | RETURN FACTORS —SP=3.1 TP<br>NC + 8 | CFM<br>NC              | 1875<br>16                    | 2500<br>24                    | 3125<br>30                     | 3750<br>35                     | 4375<br>39                     | 5000<br>42                     | 5625<br>46                      |
|                                      | 4A                                  | CFM/SIDE<br>THROW, FT. | 469<br>25-31-42               | 625<br>29-36-48               | 782<br>34-40-55                | 937<br>36-44-61                | 1093<br>38-46-65               | 1250<br>40-50-69               | 1406<br>46-52-73                |
|                                      | 3A                                  | CFM/SIDE<br>THROW, FT. | 469 703<br>25-31-42 28-34-49  | 625 938<br>29-36-48 32-39-57  | 782 1172<br>34-40-55 35-44-64  | 937 1405<br>36-44-61 39-49-69  | 1093 1640<br>38-46-65 41-49-74 | 1250 1875<br>40-50-69 44-57-78 | 1406 2110<br>46-52-73 49-60-83  |
|                                      | 2S  2G                              | CFM/SIDE<br>THROW, FT. | 937<br>32-40-55               | 1250<br>37-47-63              | 1562<br>42-53-72               | 1875<br>47-57-77               | 2187<br>50-60-83               | 2500<br>53-65-88               | 2812<br>57-68-95                |
|                                      | 1S                                  | CFM/SIDE<br>THROW, FT. | 1875<br>42-53-72              | 2500<br>49-60-83              | 3125<br>56-69-93               | 3750<br>60-72-102              | 4375<br>63-77-109              | 5000<br>69-83-116              | 5625<br>72-88-123               |
| 36<br>x<br>36<br><br>9.0<br>SQ. FT.  | RETURN FACTORS —SP=3.6 TP<br>NC + 9 | CFM<br>NC              | 2700<br>18                    | 3600<br>25                    | 4500<br>31                     | 5400<br>36                     | 6300<br>40                     | 7200<br>44                     | 8100<br>48                      |
|                                      | 4A                                  | CFM/SIDE<br>THROW, FT. | 675<br>30-37-51               | 900<br>34-41-57               | 1125<br>39-46-67               | 1350<br>41-51-74               | 1575<br>44-53-78               | 1800<br>51-57-83               | 2025<br>51-64-87                |
|                                      | 3A                                  | CFM/SIDE<br>THROW, FT. | 675 1010<br>30-37-51 34-44-60 | 900 1350<br>34-41-57 40-48-68 | 1125 1687<br>39-46-67 46-56-78 | 1350 2025<br>41-51-74 48-60-82 | 1575 2362<br>44-53-78 52-64-88 | 1800 2700<br>51-57-83 58-70-94 | 2025 3038<br>51-64-87 62-74-100 |
|                                      | 2S  2G                              | CFM/SIDE<br>THROW, FT. | 1350<br>40-45-67              | 1800<br>43-54-76              | 2250<br>50-61-86               | 2700<br>54-65-92               | 3150<br>58-70-101              | 3600<br>61-76-104              | 4050<br>67-79-113               |
|                                      | 1S                                  | CFM/SIDE<br>THROW, FT. | 2700<br>49-61-85              | 3600<br>59-70-99              | 4500<br>66-80-114              | 5400<br>72-85-122              | 6300<br>76-91-131              | 7200<br>82-97-142              | 8100<br>87-106-150              |

For performance notes, see page D32.

D

CEILING DIFFUSERS

## Performance Data

### Models 6500 and 6200 • Round Neck

| NOMINAL<br>NECK<br>SIZE           | BLOW<br>PATTERNS                                                                                                                                                              |                        | NECK<br>VELOCITY<br>TP     | 400<br>.026                  | 600<br>.058                  | 800<br>.103                  | 900<br>.130                  | 1000<br>.161                 | 1200<br>.231                 | 1400<br>.315 |
|-----------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|----------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|--------------|
| 18<br>x<br>18<br><br>6"<br>ROUND  | RETURN<br>FACTORS                                                                                                                                                             | —SP=0.7 TP<br>NC + 0   | CFM<br>NC                  | 78<br>—                      | 118<br>11                    | 157<br>19                    | 176<br>21                    | 196<br>25                    | 235<br>30                    | 274<br>35    |
|                                   |  4A                                                                                          | CFM/SIDE<br>THROW, FT. | 20<br>2-4-6                | 29<br>4-7-10                 | 39<br>6-8-11                 | 44<br>7-8-12                 | 49<br>7-8-13                 | 59<br>8-9-14                 | 69<br>8-10-15                |              |
|                                   |  3A                                                                                          | CFM/SIDE<br>THROW, FT. | 20 29<br>2-4-6 2-4-7       | 29 44<br>4-7-10 4-8-11       | 39 59<br>6-8-11 7-9-12       | 44 66<br>7-8-12 8-9-13       | 49 74<br>7-8-13 8-9-14       | 59 88<br>8-9-14 9-10-15      | 69 103<br>8-10-15 9-11-17    |              |
|                                   |  2S  2G     | CFM/SIDE<br>THROW, FT. | 39<br>3-4-9                | 59<br>5-6-13                 | 78<br>6-9-15                 | 88<br>6-10-16                | 98<br>7-11-17                | 118<br>8-13-18               | 137<br>9-14-20               |              |
|                                   |  1S                                                                                          | CFM/SIDE<br>THROW, FT. | 78<br>4-7-14               | 118<br>6-10-18               | 157<br>9-14-21               | 176<br>10-15-23              | 196<br>11-16-24              | 235<br>12-18-26              | 274<br>13-19-28              |              |
| 18<br>x<br>18<br><br>8"<br>ROUND  | RETURN<br>FACTORS                                                                                                                                                             | —SP=0.8 TP<br>NC + 0   | CFM<br>NC                  | 140<br>—                     | 209<br>13                    | 279<br>21                    | 314<br>23                    | 349<br>27                    | 419<br>32                    | 489<br>37    |
|                                   |  4A                                                                                          | CFM/SIDE<br>THROW, FT. | 35<br>4-8-10               | 52<br>6-9-13                 | 70<br>8-10-15                | 79<br>9-11-15                | 87<br>9-12-17                | 105<br>10-13-19              | 122<br>11-14-20              |              |
|                                   |  3A                                                                                          | CFM/SIDE<br>THROW, FT. | 35 52<br>4-8-10 4-9-11     | 52 79<br>6-9-13 7-10-14      | 70 105<br>8-10-15 9-11-17    | 79 118<br>9-11-15 10-12-17   | 87 131<br>9-12-17 10-13-19   | 105 157<br>10-13-19 11-14-21 | 122 183<br>11-14-0 12-15-22  |              |
|                                   |  2S  2G     | CFM/SIDE<br>THROW, FT. | 70<br>5-17-14              | 105<br>6-9-17                | 140<br>8-13-20               | 157<br>9-14-22               | 175<br>10-15-23              | 209<br>12-17-25              | 244<br>10-13-1               |              |
|                                   |  1S                                                                                          | CFM/SIDE<br>THROW, FT. | 140<br>7-12-19             | 209<br>9-14-24               | 279<br>13-19-28              | 314<br>14-21-30              | 349<br>15-22-32              | 419<br>16-24-34              | 489<br>17-26-37              |              |
| 18<br>x<br>18<br><br>10"<br>ROUND | RETURN<br>FACTORS                                                                                                                                                             | —SP=0.9 TP<br>NC + 2   | CFM<br>NC                  | 218<br>—                     | 327<br>16                    | 436<br>24                    | 491<br>26                    | 545<br>30                    | 654<br>35                    | 763<br>40    |
|                                   |  4A                                                                                          | CFM/SIDE<br>THROW, FT. | 55<br>4-8-12               | 82<br>8-11-17                | 109<br>10-13-19              | 123<br>11-14-20              | 136<br>12-15-21              | 164<br>12-16-23              | 191<br>13-17-24              |              |
|                                   |  3A                                                                                         | CFM/SIDE<br>THROW, FT. | 55 82<br>4-8-12 4-9-13     | 82 123<br>8-11-17 9-12-19    | 109 164<br>10-13-19 11-14-21 | 123 184<br>11-14-20 12-15-22 | 136 204<br>12-15-21 13-17-23 | 164 245<br>12-16-23 13-18-25 | 191 286<br>13-17-24 14-19-26 |              |
|                                   |  2S  2G | CFM/SIDE<br>THROW, FT. | 109<br>5-7-15              | 164<br>7-11-22               | 218<br>10-15-25              | 245<br>12-17-27              | 273<br>13-19-28              | 327<br>14-21-30              | 382<br>15-23-34              |              |
|                                   |  1S                                                                                        | CFM/SIDE<br>THROW, FT. | 218<br>7-12-22             | 327<br>12-17-31              | 436<br>15-23-25              | 491<br>17-26-37              | 545<br>19-27-39              | 654<br>20-29-42              | 763<br>22-32-45              |              |
| 18<br>x<br>18<br><br>12"<br>ROUND | RETURN<br>FACTORS                                                                                                                                                             | —SP=1.0 TP<br>NC + 3   | CFM<br>NC                  | 314<br>—                     | 471<br>18                    | 628<br>26                    | 707<br>28                    | 785<br>32                    | 942<br>37                    | 1099<br>42   |
|                                   |  4A                                                                                        | CFM/SIDE<br>THROW, FT. | 79<br>6-9-15               | 118<br>8-11-18               | 157<br>10-15-23              | 177<br>13-17-24              | 196<br>14-18-25              | 236<br>15-20-28              | 275<br>17-21-30              |              |
|                                   |  3A                                                                                        | CFM/SIDE<br>THROW, FT. | 79 118<br>6-9-15 7-10-17   | 118 177<br>8-11-18 9-12-20   | 157 236<br>10-15-23 11-17-25 | 177 265<br>13-17-24 14-19-26 | 196 294<br>14-18-25 15-20-28 | 236 353<br>15-20-28 17-23-31 | 275 412<br>17-21-30 19-23-33 |              |
|                                   |  2S  2G | CFM/SIDE<br>THROW, FT. | 157<br>6-9-19              | 236<br>9-14-26               | 314<br>11-16-29              | 353<br>14-21-32              | 393<br>15-23-34              | 471<br>16-24-38              | 550<br>18-27-40              |              |
|                                   |  1S                                                                                        | CFM/SIDE<br>THROW, FT. | 314<br>9-14-28             | 471<br>14-21-37              | 628<br>19-28-42              | 707<br>21-32-45              | 785<br>23-34-47              | 942<br>24-36-51              | 1099<br>27-39-55             |              |
| 18<br>x<br>18<br><br>14"<br>ROUND | RETURN<br>FACTORS                                                                                                                                                             | —SP=1.1 TP<br>NC + 4   | CFM<br>NC                  | 427<br>—                     | 641<br>20                    | 854<br>28                    | 961<br>30                    | 1068<br>34                   | 1282<br>39                   | 1495<br>44   |
|                                   |  4A                                                                                        | CFM/SIDE<br>THROW, FT. | 107<br>7-10-19             | 160<br>10-15-23              | 214<br>14-19-26              | 240<br>15-20-29              | 267<br>17-21-30              | 320<br>19-23-32              | 374<br>21-26-38              |              |
|                                   |  3A                                                                                        | CFM/SIDE<br>THROW, FT. | 107 160<br>7-10-19 8-11-21 | 160 240<br>10-15-23 11-17-25 | 214 320<br>14-19-26 15-21-29 | 240 360<br>15-20-29 17-22-32 | 267 401<br>17-21-30 19-23-33 | 320 481<br>19-23-32 21-25-35 | 374 561<br>21-26-38 23-29-42 |              |
|                                   |  2S  2G | CFM/SIDE<br>THROW, FT. | 214<br>7-11-22             | 320<br>11-16-31              | 427<br>14-22-36              | 481<br>16-24-38              | 534<br>18-27-40              | 641<br>19-28-43              | 748<br>21-31-47              |              |
|                                   |  1S                                                                                        | CFM/SIDE<br>THROW, FT. | 427<br>11-16-32            | 641<br>16-24-42              | 854<br>24-33-50              | 961<br>24-37-52              | 1068<br>27-39-55             | 1282<br>29-42-60             | 1495<br>33-45-65             |              |
| 18<br>x<br>18<br><br>16"<br>ROUND | RETURN<br>FACTORS                                                                                                                                                             | —SP=1.3 TP<br>NC + 6   | CFM<br>NC                  | 558<br>—                     | 837<br>22                    | 1116<br>30                   | 1256<br>32                   | 1395<br>36                   | 1674<br>41                   | 1953<br>46   |
|                                   |  4A                                                                                        | CFM/SIDE<br>THROW, FT. | 140<br>8-12-21             | 209<br>12-19-26              | 279<br>17-21-31              | 314<br>19-23-32              | 349<br>20-25-35              | 419<br>22-28-42              | 488<br>24-30-48              |              |
|                                   |  3A                                                                                        | CFM/SIDE<br>THROW, FT. | 140 209<br>8-12-21 9-13-23 | 209 314<br>12-19-26 13-21-29 | 279 419<br>17-21-31 19-23-34 | 314 471<br>19-23-32 21-25-35 | 349 523<br>20-25-35 22-28-39 | 419 628<br>22-28-42 24-31-46 | 488 732<br>24-30-48 26-33-53 |              |
|                                   |  2S  2G | CFM/SIDE<br>THROW, FT. | 279<br>8-13-25             | 419<br>13-19-35              | 558<br>16-25-41              | 628<br>19-28-43              | 698<br>20-30-45              | 837<br>23-34-49              | 977<br>26-37-54              |              |
|                                   |  1S                                                                                        | CFM/SIDE<br>THROW, FT. | 558<br>13-19-38            | 837<br>19-28-49              | 1116<br>25-38-57             | 1256<br>28-42-60             | 1395<br>31-44-63             | 1674<br>36-48-69             | 1953<br>42-52-75             |              |

For performance notes, see page D32.



## Performance Data

### Models 6500 and 6200 • Rectangular Neck

| NOMINAL<br>NECK<br>SIZE             | BLOW<br>PATTERNS                 | NECK<br>VELOCITY<br>TP | 300<br>.033                | 400<br>.058                 | 500<br>.090                 | 600<br>.130                 | 700<br>.177                 | 800<br>.231                  | 900<br>.293                  |
|-------------------------------------|----------------------------------|------------------------|----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|------------------------------|------------------------------|
| 9<br>x<br>6<br><br>.375<br>SQ. FT.  | RETURN FACTORS —SP=1.2 TP NC + 0 | CFM NC                 | 110<br>—                   | 150<br>14                   | 185<br>20                   | 225<br>25                   | 260<br>29                   | 300<br>33                    | 335<br>37                    |
|                                     | 4B                               | CFM/SIDE<br>THROW, FT. | 37 18<br>7-11-13 5-6-10    | 50 25<br>10-12-16 6-7-11    | 62 31<br>11-13-18 7-10-12   | 75 37<br>12-14-19 7-10-13   | 87 44<br>12-16-20 10-11-14  | 100 50<br>13-17-22 10-12-15  | 112 56<br>14-18-23 11-12-16  |
|                                     | 3A1                              | CFM/SIDE<br>THROW, FT. | 47 18<br>10-11-14 5-6-10   | 62 25<br>11-12-17 6-7-11    | 78 31<br>12-13-19 7-10-12   | 94 37<br>13-14-20 7-10-13   | 109 44<br>14-16-22 10-11-14 | 125 50<br>14-17-23 10-12-15  | 140 56<br>16-18-26 11-12-16  |
|                                     | 3A2                              | CFM/SIDE<br>THROW, FT. | 42 35<br>8-12-14 6-8-13    | 55 47<br>10-13-17 8-10-14   | 70 58<br>12-14-19 10-12-16  | 84 70<br>13-16-21 10-13-17  | 98 82<br>13-17-22 12-13-18  | 112 94<br>14-18-23 12-14-19  | 126 105<br>16-19-25 13-16-21 |
|                                     | 2A<br>2B                         | CFM/SIDE<br>THROW, FT. | 56<br>11-12-16             | 75<br>12-14-19              | 93<br>13-16-22              | 112<br>14-18-23             | 131<br>16-19-24             | 150<br>17-20-26              | 168<br>18-22-29              |
|                                     | 2C<br>2E                         | CFM/SIDE<br>THROW, FT. | 75 37<br>12-14-19 8-12-14  | 100 50<br>13-16-22 10-13-17 | 125 62<br>14-18-25 12-14-19 | 150 75<br>16-19-29 13-16-21 | 175 87<br>17-21-29 13-17-25 | 200 100<br>18-22-31 14-18-23 | 225 112<br>20-23-33 16-20-25 |
|                                     | 1A<br>1B                         | CFM/SIDE<br>THROW, FT. | 112<br>14-17-23            | 150<br>17-19-29             | 187<br>19-22-31             | 225<br>21-23-34             | 262<br>22-25-36             | 300<br>23-29-39              | 337<br>25-29-42              |
| 12<br>x<br>6<br><br>.50<br>SQ. FT.  | RETURN FACTORS —SP=1.6 TP NC + 1 | CFM NC                 | 150<br>—                   | 200<br>14                   | 250<br>20                   | 300<br>26                   | 350<br>31                   | 400<br>35                    | 450<br>39                    |
|                                     | 4B  4C                           | CFM/SIDE<br>THROW, FT. | 56 18<br>11-13-17 5-6-10   | 75 25<br>12-14-19 6-7-11    | 94 31<br>13-17-22 7-10-12   | 113 37<br>14-18-23 7-10-13  | 131 44<br>16-19-26 10-11-14 | 150 50<br>17-20-26 10-11-14  | 169 56<br>18-22-29 11-12-16  |
|                                     | 3A1                              | CFM/SIDE<br>THROW, FT. | 66 18<br>11-13-18 5-6-10   | 87 25<br>12-14-20 6-7-11    | 109 31<br>13-17-23 7-10-12  | 131 37<br>14-18-26 7-10-13  | 153 44<br>16-19-26 10-11-14 | 175 50<br>17-20-29 10-11-14  | 197 56<br>18-22-30 11-12-16  |
|                                     | 3B                               | CFM/SIDE<br>THROW, FT. | 75 37<br>11-16-20 8-12-14  | 100 50<br>14-18-23 10-13-17 | 126 62<br>16-20-27 12-14-19 | 150 75<br>18-22-29 13-16-21 | 176 87<br>18-23-31 13-17-25 | 200 100<br>20-25-32 14-18-23 | 226 112<br>22-27-34 16-20-25 |
|                                     | 2A<br>2B                         | CFM/SIDE<br>THROW, FT. | 75<br>11-13-18             | 100<br>12-14-20             | 125<br>13-17-23             | 150<br>14-18-26             | 175<br>16-19-26             | 200<br>17-20-29              | 225<br>18-22-30              |
|                                     | 2C<br>2E                         | CFM/SIDE<br>THROW, FT. | 112 37<br>14-17-23 8-12-14 | 150 50<br>17-19-29 10-13-17 | 188 62<br>19-22-31 12-14-19 | 225 75<br>21-23-34 13-16-21 | 263 87<br>22-25-36 13-17-25 | 300 100<br>23-29-39 14-18-23 | 338 112<br>25-29-42 16-20-25 |
|                                     | 1A<br>1B                         | CFM/SIDE<br>THROW, FT. | 150<br>14-17-23            | 200<br>17-19-29             | 250<br>19-22-31             | 300<br>21-23-34             | 350<br>22-25-36             | 400<br>23-29-39              | 450<br>25-29-42              |
| 15<br>x<br>6<br><br>.625<br>SQ. FT. | RETURN FACTORS —SP=1.9 TP NC + 1 | CFM NC                 | 190<br>—                   | 250<br>15                   | 310<br>21                   | 375<br>27                   | 440<br>32                   | 500<br>36                    | 565<br>40                    |
|                                     | 4B  4C                           | CFM/SIDE<br>THROW, FT. | 75 18<br>11-13-18 5-6-10   | 100 25<br>12-14-20 6-7-11   | 125 31<br>13-17-23 7-10-12  | 150 37<br>14-18-26 7-10-13  | 175 44<br>16-19-26 10-11-14 | 200 50<br>17-20-29 10-11-14  | 225 56<br>18-22-30 11-12-16  |
|                                     | 4E                               | CFM/SIDE<br>THROW, FT. | 56 37<br>11-12-16 10-11-14 | 75 50<br>12-14-19 11-12-17  | 94 62<br>12-17-22 12-13-19  | 113 75<br>14-18-23 13-14-20 | 131 87<br>16-19-26 14-16-22 | 150 100<br>16-20-26 14-17-23 | 169 112<br>18-22-29 16-18-26 |
|                                     | 3A1                              | CFM/SIDE<br>THROW, FT. | 84 18<br>12-13-19 5-6-10   | 112 25<br>13-16-22 6-7-11   | 140 31<br>14-18-24 7-10-12  | 169 37<br>16-19-26 7-10-13  | 197 44<br>17-20-28 10-11-14 | 225 50<br>18-22-30 10-11-14  | 253 56<br>19-23-34 11-12-16  |
|                                     | 2A<br>2B                         | CFM/SIDE<br>THROW, FT. | 94<br>12-14-20             | 125<br>13-16-23             | 156<br>14-19-26             | 187<br>16-20-28             | 219<br>17-22-30             | 250<br>18-23-31              | 281<br>19-26-35              |
|                                     | 2C<br>2E                         | CFM/SIDE<br>THROW, FT. | 150 37<br>14-17-23 8-12-14 | 200 50<br>17-19-29 10-13-17 | 250 62<br>19-22-31 12-14-19 | 300 75<br>21-23-34 13-16-21 | 350 87<br>22-25-36 13-17-22 | 400 100<br>23-29-39 14-18-23 | 450 112<br>25-29-42 16-20-25 |
|                                     | 1A<br>1B                         | CFM/SIDE<br>THROW, FT. | 188<br>16-19-26            | 250<br>18-22-30             | 312<br>21-25-34             | 375<br>22-29-38             | 438<br>23-29-40             | 500<br>25-31-43              | 563<br>29-32-45              |

#### Notes:

- Core style 4E is sized to give equal flow as near as possible in directions A and B.
- For core styles 1A, 1B, 2A and 2B, the "A" direction is shown. Throw correction factor for "B" direction is:  $A \times .82 = B$ .

For performance notes, see page D32.

## Performance Data

### Models 6500 and 6200 • Rectangular Neck

| NOMINAL<br>NECK<br>SIZE             | BLOW<br>PATTERNS                 | NECK<br>VELOCITY<br>TP | 300<br>.033                      | 400<br>.058                      | 500<br>.090                       | 600<br>.130                       | 700<br>.177                        | 800<br>.231                        | 900<br>.293                        |
|-------------------------------------|----------------------------------|------------------------|----------------------------------|----------------------------------|-----------------------------------|-----------------------------------|------------------------------------|------------------------------------|------------------------------------|
| 18<br>x<br>6<br><br>.75<br>SQ. FT.  | RETURN FACTORS —SP=2.6 TP NC + 2 | CFM NC                 | 225<br>—                         | 300<br>16                        | 375<br>22                         | 450<br>28                         | 525<br>33                          | 600<br>37                          | 675<br>41                          |
|                                     | 4B  4C                           | CFM/SIDE<br>THROW, FT. | A B<br>94 18<br>12-14-20 5-6-10  | A B<br>125 25<br>13-17-23 6-7-11 | A B<br>156 31<br>14-19-25 7-10-12 | A B<br>188 37<br>16-20-28 7-10-13 | A B<br>218 44<br>17-22-30 10-11-14 | A B<br>250 50<br>18-23-31 10-11-14 | A B<br>281 56<br>19-26-35 11-12-16 |
|                                     | 4E                               | CFM/SIDE<br>THROW, FT. | 56 56<br>11-13-17 11-13-17       | 75 75<br>12-14-19 12-14-19       | 94 94<br>13-17-22 13-17-22        | 113 113<br>14-18-23 14-18-23      | 131 131<br>16-19-26 16-19-26       | 150 150<br>17-20-26 17-20-26       | 169 169<br>18-22-29 18-22-29       |
|                                     | 3A1                              | CFM/SIDE<br>THROW, FT. | 103 18<br>12-14-20 5-6-10        | 137 25<br>13-17-23 6-7-11        | 172 31<br>14-19-25 7-10-12        | 206 37<br>16-20-28 7-10-13        | 240 44<br>17-22-30 10-11-14        | 275 50<br>18-23-31 10-11-14        | 309 56<br>19-26-35 11-12-16        |
|                                     | 2A<br>2B                         | CFM/SIDE<br>THROW, FT. | 112<br>13-16-22                  | 150<br>16-18-26                  | 187<br>18-20-29                   | 225<br>19-22-31                   | 262<br>20-23-34                    | 300<br>22-26-36                    | 337<br>23-26-38                    |
|                                     | 2C  2D<br>2E  2F                 | CFM/SIDE<br>THROW, FT. | 187 37<br>16-19-26 8-12-14       | 250 50<br>18-22-30 10-13-17      | 313 62<br>21-25-34 12-14-19       | 375 75<br>22-29-38 13-16-21       | 438 87<br>23-29-40 13-17-22        | 500 100<br>25-31-43 14-18-23       | 563 112<br>29-32-45 16-19-25       |
|                                     | 1A<br>1B                         | CFM/SIDE<br>THROW, FT. | 225<br>17-21-29                  | 300<br>19-23-32                  | 375<br>22-26-38                   | 450<br>23-29-42                   | 525<br>25-30-44                    | 600<br>29-32-47                    | 675<br>29-36-52                    |
|                                     | RETURN FACTORS —SP=3.2 TP NC + 3 | CFM NC                 | 260<br>—                         | 350<br>16                        | 435<br>22                         | 525<br>29                         | 610<br>33                          | 700<br>38                          | 785<br>41                          |
|                                     | 4B  4C                           | CFM/SIDE<br>THROW, FT. | A B<br>112 18<br>13-16-22 5-6-10 | A B<br>150 25<br>16-18-26 6-7-11 | A B<br>187 31<br>18-20-29 7-10-12 | A B<br>225 37<br>19-22-31 7-10-13 | A B<br>262 44<br>20-23-34 10-11-14 | A B<br>300 50<br>22-26-36 10-11-14 | A B<br>337 56<br>23-26-38 11-12-16 |
|                                     | 4E                               | CFM/SIDE<br>THROW, FT. | 75 56<br>11-13-18 11-13-17       | 100 75<br>12-14-20 12-14-19      | 125 94<br>13-17-23 13-17-22       | 150 113<br>14-18-26 14-18-23      | 175 131<br>16-19-26 16-19-26       | 200 150<br>17-20-29 17-20-26       | 225 169<br>18-22-30 18-22-29       |
| 21<br>x<br>6<br><br>.875<br>SQ. FT. | 3A1                              | CFM/SIDE<br>THROW, FT. | 122 18<br>13-16-22 5-6-10        | 162 25<br>16-18-26 6-7-11        | 203 31<br>18-20-29 7-10-12        | 244 37<br>19-22-31 7-10-13        | 284 44<br>20-23-34 10-11-14        | 325 50<br>22-26-36 10-11-14        | 365 56<br>23-26-38 11-12-16        |
|                                     | 2A<br>2B                         | CFM/SIDE<br>THROW, FT. | 131<br>13-16-22                  | 175<br>16-18-26                  | 218<br>18-20-29                   | 262<br>19-22-31                   | 306<br>20-23-34                    | 350<br>22-26-36                    | 393<br>23-26-38                    |
|                                     | 2C  2D<br>2E  2F                 | CFM/SIDE<br>THROW, FT. | 225 37<br>17-21-29 8-12-14       | 300 50<br>19-23-32 10-13-17      | 375 62<br>22-26-38 12-14-19       | 450 75<br>23-29-42 13-16-21       | 525 87<br>25-30-44 13-17-22        | 600 100<br>29-32-47 14-18-23       | 675 112<br>29-36-49 16-19-25       |
|                                     | 1A<br>1B                         | CFM/SIDE<br>THROW, FT. | 262<br>17-21-29                  | 350<br>19-23-32                  | 437<br>22-26-38                   | 525<br>23-29-42                   | 612<br>25-30-44                    | 700<br>29-32-47                    | 787<br>29-36-49                    |
|                                     | RETURN FACTORS —SP=3.9 TP NC + 4 | CFM NC                 | 300<br>—                         | 400<br>16                        | 500<br>23                         | 600<br>30                         | 700<br>34                          | 800<br>39                          | 900<br>42                          |
|                                     | 4B  4C                           | CFM/SIDE<br>THROW, FT. | A B<br>131 18<br>13-16-22 5-6-10 | A B<br>175 25<br>16-18-26 6-7-11 | A B<br>219 31<br>18-20-29 7-10-12 | A B<br>263 37<br>19-22-31 7-10-13 | A B<br>306 44<br>20-23-34 10-11-14 | A B<br>350 50<br>22-26-36 10-11-14 | A B<br>394 56<br>23-26-38 11-12-16 |
|                                     | 4E                               | CFM/SIDE<br>THROW, FT. | 75 75<br>11-13-18 11-13-18       | 100 100<br>12-14-20 12-14-20     | 125 125<br>13-17-23 13-17-23      | 150 150<br>14-18-26 14-18-26      | 175 175<br>16-19-26 16-19-26       | 200 200<br>17-20-29 17-20-29       | 225 225<br>18-22-30 18-22-30       |
|                                     | 3A1                              | CFM/SIDE<br>THROW, FT. | 141 18<br>13-16-22 5-6-10        | 187 25<br>16-18-26 6-7-11        | 234 31<br>18-20-29 7-10-12        | 281 37<br>19-22-31 7-10-13        | 328 44<br>20-23-34 10-11-14        | 375 50<br>22-26-36 10-11-14        | 422 56<br>23-26-38 11-12-16        |
|                                     | 2A<br>2B                         | CFM/SIDE<br>THROW, FT. | 150<br>13-16-22                  | 200<br>16-18-26                  | 250<br>18-20-29                   | 300<br>19-22-31                   | 350<br>20-23-34                    | 400<br>22-26-36                    | 450<br>23-26-38                    |
|                                     | 2C  2D<br>2E  2F                 | CFM/SIDE<br>THROW, FT. | 260 37<br>17-21-29 8-12-14       | 350 50<br>19-23-32 10-13-17      | 438 62<br>22-26-38 12-14-19       | 525 75<br>23-29-42 13-16-21       | 613 87<br>25-30-44 13-17-22        | 700 100<br>29-32-47 14-18-23       | 788 112<br>29-36-49 16-19-25       |
|                                     | 1A<br>1B                         | CFM/SIDE<br>THROW, FT. | 300<br>18-22-31                  | 400<br>21-25-36                  | 500<br>23-29-42                   | 600<br>25-30-44                   | 700<br>29-32-47                    | 800<br>29-34-51                    | 900<br>31-38-53                    |
| 24<br>x<br>6<br><br>1.0<br>SQ. FT.  | RETURN FACTORS —SP=3.9 TP NC + 4 | CFM NC                 | 300<br>—                         | 400<br>16                        | 500<br>23                         | 600<br>30                         | 700<br>34                          | 800<br>39                          | 900<br>42                          |
|                                     | 4B  4C                           | CFM/SIDE<br>THROW, FT. | A B<br>131 18<br>13-16-22 5-6-10 | A B<br>175 25<br>16-18-26 6-7-11 | A B<br>219 31<br>18-20-29 7-10-12 | A B<br>263 37<br>19-22-31 7-10-13 | A B<br>306 44<br>20-23-34 10-11-14 | A B<br>350 50<br>22-26-36 10-11-14 | A B<br>394 56<br>23-26-38 11-12-16 |
|                                     | 4E                               | CFM/SIDE<br>THROW, FT. | 75 75<br>11-13-18 11-13-18       | 100 100<br>12-14-20 12-14-20     | 125 125<br>13-17-23 13-17-23      | 150 150<br>14-18-26 14-18-26      | 175 175<br>16-19-26 16-19-26       | 200 200<br>17-20-29 17-20-29       | 225 225<br>18-22-30 18-22-30       |
|                                     | 3A1                              | CFM/SIDE<br>THROW, FT. | 141 18<br>13-16-22 5-6-10        | 187 25<br>16-18-26 6-7-11        | 234 31<br>18-20-29 7-10-12        | 281 37<br>19-22-31 7-10-13        | 328 44<br>20-23-34 10-11-14        | 375 50<br>22-26-36 10-11-14        | 422 56<br>23-26-38 11-12-16        |
|                                     | 2A<br>2B                         | CFM/SIDE<br>THROW, FT. | 150<br>13-16-22                  | 200<br>16-18-26                  | 250<br>18-20-29                   | 300<br>19-22-31                   | 350<br>20-23-34                    | 400<br>22-26-36                    | 450<br>23-26-38                    |
|                                     | 2C  2D<br>2E  2F                 | CFM/SIDE<br>THROW, FT. | 260 37<br>17-21-29 8-12-14       | 350 50<br>19-23-32 10-13-17      | 438 62<br>22-26-38 12-14-19       | 525 75<br>23-29-42 13-16-21       | 613 87<br>25-30-44 13-17-22        | 700 100<br>29-32-47 14-18-23       | 788 112<br>29-36-49 16-19-25       |
|                                     | 1A<br>1B                         | CFM/SIDE<br>THROW, FT. | 300<br>18-22-31                  | 400<br>21-25-36                  | 500<br>23-29-42                   | 600<br>25-30-44                   | 700<br>29-32-47                    | 800<br>29-34-51                    | 900<br>31-38-53                    |

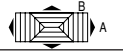
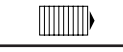
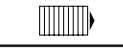
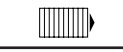
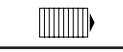
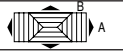
#### Notes:

1. Core style 4E is sized to give equal flow as near as possible in directions A and B.
2. For core styles 1A, 1B, 2A and 2B, the "A" direction is shown. Throw correction factor for "B" direction is: A x .82 = B.

For performance notes, see page D32.

## Performance Data

### Models 6500 and 6200 • Rectangular Neck

| NOMINAL<br>NECK<br>SIZE                                                                                                                                                          | BLOW<br>PATTERNS                                                                                                                                                                                                                                                                                                                                               |                        | NECK<br>VELOCITY<br>TP      | 300<br>.033                  | 400<br>.058                  | 500<br>.090                  | 600<br>.130                  | 700<br>.177                  | 800<br>.231                   | 900<br>.293 |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|-----------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|-------------------------------|-------------|
| 30<br>x<br>6<br><br>1.25<br>SQ. FT.                                                                                                                                              | RETURN<br>FACTORS                                                                                                                                                                                                                                                                                                                                              | —SP=3.2 TP<br>NC + 3   | CFM<br>NC                   | 375<br>—                     | 500<br>17                    | 625<br>24                    | 750<br>30                    | 875<br>35                    | 1000<br>40                    | 1125<br>43  |
|                                                                                                                                                                                  |  4B  4C                                                                                                                                                                                      | CFM/SIDE<br>THROW, FT. | 169 18<br>16-19-26 5-6-10   | 225 25<br>18-22-30 6-8-12    | 281 31<br>21-25-34 8-10-13   | 338 37<br>22-29-38 8-10-14   | 393 44<br>23-29-40 10-12-16  | 450 50<br>25-31-43 10-12-16  | 506 56<br>27-32-45 12-13-17   |             |
|                                                                                                                                                                                  |  4E                                                                                                                                                                                                                                                                           | CFM/SIDE<br>THROW, FT. | 94 94<br>13-16-22 13-16-22  | 125 125<br>14-18-25 14-18-25 | 156 156<br>16-21-29 16-21-29 | 188 188<br>17-22-30 17-22-30 | 219 219<br>18-23-32 18-23-32 | 250 250<br>19-25-34 19-25-34 | 282 282<br>21-29-38 21-29-38  |             |
|                                                                                                                                                                                  |  3A1                                                                                                                                                                                                                                                                          | CFM/SIDE<br>THROW, FT. | 178 18<br>16-19-26 5-6-10   | 237 25<br>18-22-30 6-8-12    | 297 31<br>21-25-34 8-10-13   | 356 37<br>22-29-38 8-10-14   | 415 44<br>23-29-40 10-12-16  | 475 50<br>25-31-43 10-12-16  | 534 56<br>27-32-45 12-13-17   |             |
|                                                                                                                                                                                  |  2A<br> 2B                                                                                                                                                                                   | CFM/SIDE<br>THROW, FT. | 187<br>16-19-26             | 250<br>18-22-30              | 312<br>21-25-34              | 375<br>22-29-38              | 437<br>23-29-40              | 500<br>25-31-43              | 562<br>27-32-45               |             |
|                                                                                                                                                                                  |  2C  2D<br> 2E  2F         | CFM/SIDE<br>THROW, FT. | 337 37<br>18-22-31 8-12-14  | 450 50<br>21-25-36 10-13-17  | 563 62<br>23-29-42 12-14-19  | 675 75<br>25-30-44 13-16-21  | 788 87<br>27-32-47 13-17-22  | 900 100<br>29-34-51 14-18-23 | 1013 112<br>31-38-53 16-19-25 |             |
|                                                                                                                                                                                  |  1A<br> 1B                                                                                                                                                                                   | CFM/SIDE<br>THROW, FT. | 375<br>19-23-32             | 500<br>22-29-39              | 625<br>25-31-44              | 750<br>27-34-47              | 875<br>29-36-51              | 1000<br>31-39-55             | 1125<br>32-42-57              |             |
| 12<br>x<br>9<br><br>.75<br>SQ. FT.                                                                                                                                               | RETURN<br>FACTORS                                                                                                                                                                                                                                                                                                                                              | —SP=3.9 TP<br>NC + 4   | CFM<br>NC                   | 225<br>—                     | 300<br>17                    | 375<br>23                    | 450<br>28                    | 525<br>33                    | 600<br>36                     | 675<br>40   |
|                                                                                                                                                                                  |  4B  4C                                                                                                                                                                                      | CFM/SIDE<br>THROW, FT. | 70 42<br>10-13-17 6-8-13    | 94 56<br>12-14-19 8-10-14    | 117 70<br>13-16-22 10-12-16  | 141 84<br>14-17-23 10-13-17  | 164 98<br>16-18-25 12-13-18  | 188 112<br>18-21-27 12-14-19 | 211 126<br>19-24-31 13-16-21  |             |
|                                                                                                                                                                                  |  3A1                                                                                                                                                                                                                                                                          | CFM/SIDE<br>THROW, FT. | 91 42<br>13-16-22 6-8-13    | 121 56<br>14-18-25 8-10-14   | 152 70<br>16-21-29 10-12-16  | 183 84<br>17-22-30 10-13-17  | 213 98<br>18-23-32 12-13-18  | 244 112<br>19-25-34 12-14-19 | 274 126<br>21-29-38 13-16-21  |             |
|                                                                                                                                                                                  |  3A2                                                                                                                                                                                                                                                                          | CFM/SIDE<br>THROW, FT. | 75 75<br>13-15-20 13-15-20  | 100 100<br>14-17-22 14-17-22 | 125 125<br>15-20-25 15-20-25 | 150 150<br>17-21-27 17-21-27 | 175 175<br>18-22-31 18-22-31 | 200 200<br>20-24-31 20-24-31 | 225 225<br>21-25-34 21-25-34  |             |
|                                                                                                                                                                                  |  2A<br> 2B                                                                                                                                                                                 | CFM/SIDE<br>THROW, FT. | 112<br>14-17-23             | 150<br>17-19-29              | 187<br>19-22-31              | 225<br>21-23-34              | 262<br>22-25-36              | 300<br>23-27-39              | 337<br>25-29-42               |             |
|                                                                                                                                                                                  |  2C  2D<br> 2E  2F | CFM/SIDE<br>THROW, FT. | 141 84<br>15-18-25 13-15-20 | 188 112<br>18-21-31 14-17-22 | 234 141<br>21-24-34 15-20-25 | 281 169<br>22-25-36 17-21-27 | 328 197<br>24-27-39 18-22-31 | 375 225<br>25-29-42 20-24-31 | 422 253<br>27-31-45 21-25-34  |             |
|                                                                                                                                                                                  |  1A<br> 1B                                                                                                                                                                               | CFM/SIDE<br>THROW, FT. | 225<br>18-22-31             | 300<br>21-25-35              | 375<br>24-28-41              | 450<br>25-31-45              | 525<br>27-32-48              | 600<br>31-35-50              | 675<br>31-39-53               |             |
| 15<br>x<br>9<br><br>.93<br>SQ. FT.                                                                                                                                               | RETURN<br>FACTORS                                                                                                                                                                                                                                                                                                                                              | —SP=1.7 TP<br>NC + 3   | CFM<br>NC                   | 280<br>—                     | 375<br>18                    | 470<br>24                    | 565<br>29                    | 655<br>34                    | 750<br>37                     | 845<br>41   |
|                                                                                                                                                                                  |  4B  4C                                                                                                                                                                                  | CFM/SIDE<br>THROW, FT. | 98 42<br>13-16-22 6-8-13    | 131 56<br>14-18-25 8-10-14   | 165 70<br>16-21-29 10-12-16  | 198 84<br>17-22-30 10-13-17  | 230 98<br>18-23-32 12-13-18  | 263 112<br>19-25-34 12-14-19 | 296 126<br>21-29-38 13-16-21  |             |
|                                                                                                                                                                                  |  4E                                                                                                                                                                                                                                                                         | CFM/SIDE<br>THROW, FT. | 70 70<br>12-14-19 12-14-19  | 94 94<br>13-16-22 13-16-22   | 117 117<br>14-18-25 14-18-25 | 141 141<br>16-19-29 16-19-29 | 164 164<br>17-21-29 17-21-29 | 188 188<br>18-22-31 18-22-31 | 211 211<br>19-23-32 19-23-32  |             |
|                                                                                                                                                                                  |  3A1                                                                                                                                                                                                                                                                        | CFM/SIDE<br>THROW, FT. | 120 42<br>14-17-23 6-8-13   | 159 56<br>17-19-29 8-10-14   | 200 70<br>19-22-31 10-12-16  | 240 84<br>21-23-34 10-13-17  | 279 98<br>22-25-36 12-13-18  | 319 112<br>23-27-39 12-14-19 | 359 126<br>25-29-42 13-16-21  |             |
|                                                                                                                                                                                  |  3A2                                                                                                                                                                                                                                                                        | CFM/SIDE<br>THROW, FT. | 117 82<br>14-15-22 11-14-18 | 155 110<br>15-18-25 13-15-21 | 196 137<br>17-21-28 14-17-24 | 233 165<br>18-22-31 15-18-25 | 272 192<br>20-24-32 17-20-27 | 312 219<br>21-25-35 17-21-31 | 351 247<br>22-27-39 18-22-31  |             |
|                                                                                                                                                                                  |  2A<br> 2B                                                                                                                                                                               | CFM/SIDE<br>THROW, FT. | 140<br>14-17-23             | 187<br>17-19-29              | 235<br>19-22-31              | 281<br>21-23-34              | 328<br>22-25-36              | 375<br>23-29-39              | 422<br>25-29-42               |             |
|                                                                                                                                                                                  |  2C  2D<br> 2E  2F | CFM/SIDE<br>THROW, FT. | 197 84<br>17-21-28 13-15-20 | 263 112<br>20-24-32 14-17-22 | 329 141<br>22-27-36 15-20-25 | 394 169<br>24-31-41 17-21-27 | 459 197<br>25-31-43 18-22-30 | 525 225<br>27-34-46 20-24-32 | 592 253<br>31-35-49 21-25-34  |             |
|  1A<br> 1B | CFM/SIDE<br>THROW, FT.                                                                                                                                                                                                                                                                                                                                         | 281<br>20-24-34        | 375<br>22-27-39             | 470<br>25-31-45              | 563<br>27-32-48              | 656<br>29-35-50              | 750<br>31-36-55              | 845<br>34-41-57              |                               |             |

#### Notes:

- Core style 4E is sized to give equal flow as near as possible in directions A and B.
- For core styles 1A, 1B, 2A and 2B, the "A" direction is shown. Throw correction factor for "B" direction is: A x .82 = B.

For performance notes, see page D32.

D

CEILING DIFFUSERS

## Performance Data

### Models 6500 and 6200 • Rectangular Neck

| NOMINAL<br>NECK<br>SIZE              | BLOW<br>PATTERNS                    | NECK<br>VELOCITY<br>TP | 300<br>.033                   | 400<br>.058                    | 500<br>.090                    | 600<br>.130                    | 700<br>.177                    | 800<br>.231                    | 900<br>.293                     |
|--------------------------------------|-------------------------------------|------------------------|-------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|---------------------------------|
| 18<br>x<br>9<br><br>1.125<br>SQ. FT. | RETURN FACTORS —SP=2.1 TP<br>NC + 3 | CFM<br>NC              | 335<br>—                      | 450<br>19                      | 560<br>25                      | 675<br>30                      | 790<br>35                      | 900<br>38                      | 1010<br>42                      |
|                                      | 4B  4C                              | CFM/SIDE<br>THROW, FT. | A 126 42<br>14-17-23 6-8-13   | A 169 56<br>17-19-29 8-10-14   | A 211 70<br>19-22-31 10-12-16  | A 254 84<br>21-23-34 10-13-17  | A 296 98<br>22-25-36 12-13-18  | A 338 112<br>23-27-39 12-14-19 | A 380 126<br>25-29-42 13-16-21  |
|                                      | 4E                                  | CFM/SIDE<br>THROW, FT. | A 99 70<br>13-16-22 12-14-19  | A 132 94<br>14-18-25 13-16-22  | A 164 117<br>16-21-29 14-18-25 | A 197 141<br>17-22-30 16-19-29 | A 230 164<br>18-23-32 17-21-29 | A 263 188<br>19-25-34 18-22-31 | A 296 211<br>21-29-38 19-23-32  |
|                                      | 3A1                                 | CFM/SIDE<br>THROW, FT. | A 147 42<br>14-17-23 6-8-13   | A 197 56<br>17-19-29 8-10-14   | A 246 70<br>19-22-31 10-12-16  | A 295 84<br>21-23-34 10-13-17  | A 345 98<br>22-25-36 12-13-18  | A 394 112<br>23-27-39 12-14-19 | A 443 126<br>25-29-42 13-16-21  |
|                                      | 3B                                  | CFM/SIDE<br>THROW, FT. | A 168 84<br>17-21-28 13-15-20 | A 225 112<br>19-23-32 14-17-22 | A 281 141<br>21-27-36 15-20-25 | A 337 169<br>23-28-40 17-21-27 | A 394 197<br>25-30-42 18-22-31 | A 450 225<br>27-32-46 20-24-31 | A 506 253<br>28-34-47 21-25-34  |
|                                      | 2A<br>2B                            | CFM/SIDE<br>THROW, FT. | A 163<br>16-19-26             | A 225<br>18-22-30              | A 281<br>21-25-34              | A 337<br>22-29-38              | A 394<br>23-29-40              | A 450<br>25-31-43              | A 506<br>29-32-45               |
|                                      | 2C  2E  2D  2F                      | CFM/SIDE<br>THROW, FT. | A 253 84<br>18-22-31 13-15-20 | A 338 112<br>21-25-35 14-17-22 | A 421 141<br>24-28-41 15-20-25 | A 506 169<br>25-31-45 17-21-27 | A 591 197<br>27-32-48 18-22-31 | A 675 225<br>29-35-50 20-24-31 | A 759 253<br>31-39-53 21-25-34  |
|                                      | 1A<br>1B                            | CFM/SIDE<br>THROW, FT. | A 337<br>20-24-34             | A 450<br>22-27-39              | A 562<br>25-31-45              | A 675<br>27-32-48              | A 788<br>29-35-50              | A 900<br>31-36-55              | A 1012<br>34-41-57              |
| 21<br>x<br>9<br><br>1.125<br>SQ. FT. | RETURN FACTORS —SP=2.5 TP<br>NC + 4 | CFM<br>NC              | 395<br>—                      | 525<br>19                      | 655<br>25                      | 785<br>31                      | 915<br>36                      | 1050<br>38                     | 1180<br>42                      |
|                                      | 4B  4C                              | CFM/SIDE<br>THROW, FT. | A 154 42<br>16-19-26 6-8-13   | A 206 56<br>18-22-30 8-10-14   | A 258 70<br>21-25-34 10-12-16  | A 309 84<br>22-29-38 10-13-17  | A 360 98<br>23-29-40 12-13-18  | A 413 112<br>25-31-43 12-14-19 | A 464 126<br>29-32-45 13-16-21  |
|                                      | 4E                                  | CFM/SIDE<br>THROW, FT. | A 98 98<br>13-16-22 13-16-22  | A 131 131<br>14-18-25 14-18-25 | A 163 163<br>16-21-29 16-21-29 | A 196 196<br>17-22-30 17-22-30 | A 229 229<br>18-23-32 18-23-32 | A 261 261<br>19-25-34 19-25-34 | A 294 294<br>21-29-38 21-29-38  |
|                                      | 3A1                                 | CFM/SIDE<br>THROW, FT. | A 175 42<br>16-19-26 6-8-13   | A 234 56<br>18-22-30 8-10-14   | A 292 70<br>21-25-34 10-12-16  | A 351 84<br>22-29-38 10-13-17  | A 410 98<br>23-29-40 12-13-18  | A 468 112<br>25-31-43 12-14-19 | A 527 126<br>29-32-45 13-16-21  |
|                                      | 2A<br>2B                            | CFM/SIDE<br>THROW, FT. | A 196<br>16-19-26             | A 262<br>18-22-30              | A 327<br>21-25-34              | A 393<br>22-27-38              | A 458<br>23-29-40              | A 525<br>25-31-43              | A 590<br>29-32-45               |
|                                      | 2C  2E  2D  2F                      | CFM/SIDE<br>THROW, FT. | A 308 84<br>20-24-34 13-15-20 | A 412 112<br>22-27-39 14-17-22 | A 514 141<br>25-31-45 15-20-25 | A 617 169<br>27-32-48 17-21-27 | A 720 197<br>31-35-50 18-22-29 | A 825 225<br>31-36-55 20-24-31 | A 927 253<br>34-41-57 21-25-34  |
|                                      | 1A<br>1B                            | CFM/SIDE<br>THROW, FT. | A 393<br>21-25-35             | A 524<br>24-31-42              | A 655<br>27-34-48              | A 786<br>29-36-50              | A 917<br>31-39-55              | A 1050<br>34-42-59             | A 1180<br>35-45-62              |
|                                      | RETURN FACTORS —SP=2.9 TP<br>NC + 4 | CFM<br>NC              | 450<br>—                      | 600<br>19                      | 750<br>25                      | 900<br>31                      | 1050<br>36                     | 1200<br>38                     | 1350<br>43                      |
| 24<br>x<br>9<br><br>1.5<br>SQ. FT.   | 4B  4C                              | CFM/SIDE<br>THROW, FT. | A 183 42<br>17-21-28 7-8-14   | A 244 56<br>20-24-32 8-11-15   | A 305 70<br>22-27-36 11-13-17  | A 366 84<br>24-29-41 11-14-18  | A 427 98<br>25-31-43 13-14-20  | A 488 112<br>27-34-46 13-15-21 | A 549 126<br>31-35-49 14-17-22  |
|                                      | 4E                                  | CFM/SIDE<br>THROW, FT. | A 126 99<br>15-18-25 14-17-24 | A 169 132<br>18-21-31 15-20-27 | A 211 164<br>21-24-34 17-22-31 | A 253 197<br>22-25-36 18-24-32 | A 295 230<br>24-27-39 20-25-35 | A 337 263<br>25-31-42 21-27-36 | A 379 296<br>27-31-45 22-31-41  |
|                                      | 3A1                                 | CFM/SIDE<br>THROW, FT. | A 204 42<br>17-21-28 7-8-14   | A 272 56<br>20-24-32 8-11-15   | A 340 70<br>22-27-36 11-13-17  | A 408 84<br>24-29-41 11-14-18  | A 476 98<br>25-31-43 13-14-20  | A 544 112<br>27-34-46 13-15-21 | A 612 126<br>31-35-49 14-17-22  |
|                                      | 2A<br>2B                            | CFM/SIDE<br>THROW, FT. | A 225<br>18-22-31             | A 300<br>21-25-35              | A 375<br>24-28-41              | A 450<br>25-31-45              | A 525<br>27-32-48              | A 600<br>29-35-50              | A 675<br>31-39-53               |
|                                      | 2C  2E  2D  2F                      | CFM/SIDE<br>THROW, FT. | A 365 84<br>21-25-35 13-15-20 | A 488 112<br>24-31-42 14-17-22 | A 609 141<br>27-34-48 15-20-25 | A 731 169<br>29-36-50 17-21-27 | A 853 197<br>31-39-55 18-22-29 | A 975 225<br>34-42-59 20-24-31 | A 1097 253<br>35-45-62 21-25-34 |
|                                      | 1A<br>1B                            | CFM/SIDE<br>THROW, FT. | A 450<br>21-25-35             | A 600<br>24-31-42              | A 750<br>27-34-48              | A 900<br>29-36-50              | A 1050<br>31-39-55             | A 1200<br>34-42-59             | A 1350<br>35-45-62              |
|                                      | RETURN FACTORS —SP=2.9 TP<br>NC + 4 | CFM<br>NC              | 450<br>—                      | 600<br>19                      | 750<br>25                      | 900<br>31                      | 1050<br>36                     | 1200<br>38                     | 1350<br>43                      |
|                                      | 4B  4C                              | CFM/SIDE<br>THROW, FT. | A 183 42<br>17-21-28 7-8-14   | A 244 56<br>20-24-32 8-11-15   | A 305 70<br>22-27-36 11-13-17  | A 366 84<br>24-29-41 11-14-18  | A 427 98<br>25-31-43 13-14-20  | A 488 112<br>27-34-46 13-15-21 | A 549 126<br>31-35-49 14-17-22  |

#### Notes:

- Core style 4E is sized to give equal flow as near as possible in directions A and B.
- For core styles 1A, 1B, 2A and 2B, the "A" direction is shown. Throw correction factor for "B" direction is:  $A \times .82 = B$ .

For performance notes, see page D32.



## Performance Data

### Models 6500 and 6200 • Rectangular Neck

| NOMINAL<br>NECK<br>SIZE              | BLOW<br>PATTERNS                                                                                                                                                                                                                                                                                                                                               | NECK<br>VELOCITY<br>TP | 300<br>.033                  | 400<br>.058                  | 500<br>.090                  | 600<br>.130                   | 700<br>.177                   | 800<br>.231                   | 900<br>.293                   |
|--------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|------------------------------|------------------------------|------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|
| 30<br>x<br>9<br><br>1.875<br>SQ. FT. | RETURN FACTORS —SP=3.9 TP<br>NC + 5                                                                                                                                                                                                                                                                                                                            | CFM<br>NC              | 560<br>—                     | 750<br>20                    | 935<br>26                    | 1125<br>32                    | 1310<br>37                    | 1500<br>39                    | 1685<br>44                    |
|                                      |  4B  4C                                                                                                                                                                                      | CFM/SIDE<br>THROW, FT. | 238 42<br>18-22-31 7-8-14    | 319 56<br>21-25-35 8-11-15   | 398 70<br>24-28-41 11-13-17  | 478 84<br>25-31-45 11-14-18   | 557 98<br>27-32-48 13-14-20   | 638 112<br>29-35-50 13-15-21  | 716 126<br>31-39-53 14-17-22  |
|                                      |  4E                                                                                                                                                                                                                                                                           | CFM/SIDE<br>THROW, FT. | 155 126<br>17-21-28 15-18-25 | 206 169<br>20-24-32 18-21-31 | 258 211<br>22-27-36 21-24-34 | 310 253<br>24-31-41 22-25-36  | 361 295<br>25-31-42 24-27-39  | 413 337<br>27-34-46 25-29-42  | 465 379<br>31-35-49 27-31-45  |
|                                      |  3A1                                                                                                                                                                                                                                                                          | CFM/SIDE<br>THROW, FT. | 259 42<br>18-22-31 7-8-14    | 347 56<br>21-25-35 8-11-15   | 433 70<br>24-28-41 11-13-17  | 520 84<br>25-31-45 11-14-18   | 606 98<br>27-32-48 13-14-20   | 694 112<br>29-35-50 13-15-21  | 779 126<br>31-39-53 14-17-22  |
|                                      |  2A<br> 2B                                                                                                                                                                                   | CFM/SIDE<br>THROW, FT. | 281<br>20-24-34              | 375<br>22-27-39              | 468<br>25-31-45              | 562<br>27-32-48               | 655<br>29-35-50               | 750<br>31-36-55               | 842<br>34-41-57               |
|                                      |  2C  2D<br> 2E  2F         | CFM/SIDE<br>THROW, FT. | 476 84<br>22-27-39 13-15-20  | 638 112<br>25-31-45 14-17-22 | 796 141<br>28-35-50 15-20-25 | 956 169<br>31-39-55 17-21-27  | 1113 197<br>32-42-59 18-22-31 | 1275 225<br>35-45-62 20-24-31 | 1432 253<br>39-48-66 21-25-34 |
|                                      |  1A<br> 1B                                                                                                                                                                                  | CFM/SIDE<br>THROW, FT. | 562<br>22-27-39              | 750<br>25-31-45              | 937<br>28-35-50              | 1125<br>31-39-55              | 1310<br>32-42-59              | 1500<br>35-45-62              | 1685<br>39-48-66              |
| 36<br>x<br>9<br><br>2.25<br>SQ. FT.  | RETURN FACTORS —SP=5.0 TP<br>NC + 6                                                                                                                                                                                                                                                                                                                            | CFM<br>NC              | 675<br>—                     | 900<br>21                    | 1125<br>27                   | 1350<br>33                    | 1575<br>38                    | 1800<br>40                    | 2025<br>44                    |
|                                      |  4B  4C                                                                                                                                                                                  | CFM/SIDE<br>THROW, FT. | 295 42<br>20-24-34 7-8-14    | 394 56<br>22-27-39 8-11-15   | 492 70<br>25-31-45 11-13-17  | 591 84<br>27-32-48 11-14-18   | 689 98<br>29-35-50 13-14-20   | 788 112<br>31-36-55 13-15-21  | 886 126<br>34-41-57 14-17-22  |
|                                      |  4E                                                                                                                                                                                                                                                                         | CFM/SIDE<br>THROW, FT. | 183 155<br>17-21-28 17-21-28 | 244 206<br>20-24-32 20-24-32 | 305 258<br>22-27-36 22-27-36 | 366 310<br>24-31-41 24-31-41  | 427 361<br>25-31-42 25-31-42  | 488 413<br>27-34-46 27-34-46  | 549 465<br>31-35-49 31-35-49  |
|                                      |  3A1                                                                                                                                                                                                                                                                        | CFM/SIDE<br>THROW, FT. | 316 42<br>20-24-34 7-8-14    | 422 56<br>22-27-39 8-11-15   | 527 70<br>25-31-45 11-13-17  | 633 84<br>27-32-48 11-14-18   | 738 98<br>29-35-50 13-14-20   | 844 112<br>31-36-55 13-15-21  | 949 126<br>34-41-57 14-17-22  |
|                                      |  2A<br> 2B                                                                                                                                                                               | CFM/SIDE<br>THROW, FT. | 337<br>20-24-34              | 450<br>22-27-39              | 562<br>25-31-45              | 675<br>27-32-48               | 787<br>29-35-50               | 900<br>31-36-55               | 1012<br>34-41-57              |
|                                      |  2C  2D<br> 2E  2F | CFM/SIDE<br>THROW, FT. | 590 84<br>24-31-42 13-15-20  | 788 112<br>28-34-48 14-17-22 | 984 141<br>32-39-55 15-20-25 | 1181 169<br>34-42-57 17-21-27 | 1378 197<br>36-45-62 18-22-29 | 1575 225<br>41-49-66 20-24-31 | 1772 253<br>43-52-70 21-25-34 |
|                                      |  1A<br> 1B                                                                                                                                                                               | CFM/SIDE<br>THROW, FT. | 675<br>24-31-42              | 900<br>28-34-48              | 1125<br>32-39-55             | 1350<br>34-42-57              | 1575<br>36-45-62              | 1800<br>41-49-66              | 2025<br>43-52-70              |
| 15<br>x<br>12<br><br>1.25<br>SQ. FT. | RETURN FACTORS —SP=1.6 TP<br>NC + 2                                                                                                                                                                                                                                                                                                                            | CFM<br>NC              | 375<br>—                     | 500<br>19                    | 625<br>25                    | 750<br>30                     | 875<br>34                     | 1000<br>38                    | 1125<br>41                    |
|                                      |  4B  4C                                                                                                                                                                                  | CFM/SIDE<br>THROW, FT. | 112 75<br>13-15-21 8-13-15   | 150 100<br>14-17-24 11-14-18 | 187 125<br>15-20-27 13-15-21 | 225 150<br>17-21-29 14-17-22  | 262 175<br>18-22-31 14-18-24  | 300 200<br>20-24-34 15-20-25  | 337 225<br>21-25-35 17-21-27  |
|                                      |  3A1                                                                                                                                                                                                                                                                        | CFM/SIDE<br>THROW, FT. | 150 75<br>15-18-25 8-13-15   | 200 100<br>18-21-31 11-14-18 | 250 125<br>21-24-34 13-15-21 | 300 150<br>22-25-36 14-17-22  | 350 175<br>24-27-39 14-18-24  | 400 200<br>25-29-42 15-20-25  | 450 225<br>27-31-45 17-21-27  |
|                                      |  3A2                                                                                                                                                                                                                                                                        | CFM/SIDE<br>THROW, FT. | 117 129<br>11-14-18 14-15-22 | 156 172<br>13-15-21 15-18-25 | 195 215<br>14-17-24 17-21-28 | 234 258<br>15-18-25 18-22-31  | 273 301<br>17-20-27 20-24-32  | 312 344<br>17-21-29 21-25-35  | 351 387<br>18-22-31 22-27-39  |
|                                      |  2A<br> 2B                                                                                                                                                                               | CFM/SIDE<br>THROW, FT. | 187<br>17-21-28              | 250<br>20-24-32              | 312<br>22-27-36              | 375<br>24-29-41               | 437<br>25-31-43               | 500<br>27-34-46               | 567<br>31-35-49               |
|                                      |  2C  2D<br> 2E  2F | CFM/SIDE<br>THROW, FT. | 225 150<br>18-22-31 14-17-24 | 300 200<br>21-25-35 15-20-27 | 375 250<br>24-28-41 17-22-31 | 450 300<br>25-31-45 18-24-32  | 525 350<br>27-32-48 20-25-35  | 600 400<br>31-35-50 21-27-36  | 675 450<br>31-39-53 22-31-41  |
|                                      |  1A<br> 1B                                                                                                                                                                               | CFM/SIDE<br>THROW, FT. | 375<br>21-25-35              | 500<br>24-31-42              | 625<br>27-34-48              | 750<br>29-36-50               | 875<br>31-39-55               | 1000<br>34-42-59              | 1125<br>35-45-62              |

#### Notes:

- Core style 4E is sized to give equal flow as near as possible in directions A and B.
- For core styles 1A, 1B, 2A and 2B, the "A" direction is shown. Throw correction factor for "B" direction is:  $A \times .82 = B$ .

For performance notes, see page D32.

## Performance Data

### Models 6500 and 6200 • Rectangular Neck

| NOMINAL<br>NECK<br>SIZE              | BLOW<br>PATTERNS                 | NECK<br>VELOCITY<br>TP | 300<br>.033                         | 400<br>.058                         | 500<br>.090                         | 600<br>.130                         | 700<br>.177                          | 800<br>.231                          | 900<br>.293                          |
|--------------------------------------|----------------------------------|------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|
| 18<br>x<br>12<br><br>1.5<br>SQ. FT.  | RETURN FACTORS —SP=1.9 TP NC + 3 | CFM NC                 | 450<br>—                            | 600<br>20                           | 750<br>26                           | 900<br>31                           | 1050<br>35                           | 1200<br>39                           | 1350<br>42                           |
|                                      | 4B  4C                           | CFM/SIDE<br>THROW, FT. | A 150<br>B 75<br>15-18-25 8-13-15   | A 200<br>B 100<br>18-21-31 11-14-18 | A 250<br>B 125<br>21-24-34 13-15-21 | A 300<br>B 150<br>22-25-36 14-17-22 | A 350<br>B 175<br>24-27-39 14-18-24  | A 400<br>B 200<br>25-31-42 15-20-25  | A 450<br>B 225<br>27-31-45 17-21-27  |
|                                      | 3A1                              | CFM/SIDE<br>THROW, FT. | A 187<br>B 75<br>17-21-28 8-13-15   | A 250<br>B 100<br>20-24-32 11-14-18 | A 312<br>B 125<br>22-27-36 13-15-21 | A 375<br>B 150<br>24-31-41 14-17-22 | A 437<br>B 175<br>25-31-43 14-18-24  | A 500<br>B 200<br>27-34-46 15-20-25  | A 562<br>B 225<br>31-35-49 17-21-27  |
|                                      | 3A2                              | CFM/SIDE<br>THROW, FT. | A 168<br>B 141<br>14-17-24 13-15-21 | A 225<br>B 187<br>15-20-27 14-17-24 | A 281<br>B 234<br>17-22-31 15-20-27 | A 337<br>B 281<br>18-24-32 17-21-31 | A 394<br>B 328<br>20-25-35 18-22-31  | A 450<br>B 375<br>21-27-36 20-24-34  | A 506<br>B 422<br>22-31-41 21-25-35  |
|                                      | 2A<br>2B                         | CFM/SIDE<br>THROW, FT. | A 225<br>B 187<br>18-22-31          | A 300<br>B 248<br>21-25-35          | A 375<br>B 312<br>24-28-41          | A 450<br>B 375<br>25-31-45          | A 525<br>B 437<br>27-32-48           | A 600<br>B 500<br>29-35-50           | A 675<br>B 562<br>31-39-53           |
|                                      | 2C  2E  2D  2F                   | CFM/SIDE<br>THROW, FT. | A 300<br>B 150<br>20-24-34 14-17-24 | A 400<br>B 200<br>22-27-39 15-20-27 | A 500<br>B 250<br>25-31-45 17-22-31 | A 600<br>B 300<br>27-32-48 18-24-32 | A 700<br>B 350<br>29-35-50 20-25-35  | A 800<br>B 400<br>31-36-55 21-27-36  | A 900<br>B 450<br>34-41-57 22-31-41  |
|                                      | 1A<br>1B                         | CFM/SIDE<br>THROW, FT. | A 450<br>B 375<br>21-25-35          | A 600<br>B 500<br>24-31-42          | A 750<br>B 625<br>27-34-48          | A 900<br>B 750<br>29-36-50          | A 1050<br>B 875<br>31-39-55          | A 1200<br>B 1000<br>34-42-59         | A 1350<br>B 1125<br>35-45-62         |
|                                      | RETURN FACTORS —SP=2.2 TP NC + 5 | CFM NC                 | 525<br>—                            | 700<br>20                           | 875<br>26                           | 1050<br>31                          | 1225<br>35                           | 1400<br>39                           | 1575<br>42                           |
|                                      | 4B  4C                           | CFM/SIDE<br>THROW, FT. | A 187<br>B 75<br>17-21-28 8-13-15   | A 250<br>B 100<br>20-24-32 11-14-18 | A 312<br>B 125<br>22-27-36 13-15-21 | A 375<br>B 150<br>24-31-41 14-17-22 | A 437<br>B 175<br>25-32-43 14-18-24  | A 500<br>B 200<br>27-34-46 15-20-25  | A 562<br>B 225<br>31-35-49 17-21-27  |
|                                      | 4E                               | CFM/SIDE<br>THROW, FT. | A 150<br>B 112<br>15-18-25          | A 200<br>B 150<br>18-21-31 15-18-25 | A 250<br>B 187<br>21-24-34          | A 300<br>B 225<br>22-25-36          | A 350<br>B 262<br>24-27-39           | A 400<br>B 300<br>25-31-42 22-25-36  | A 450<br>B 337<br>27-31-45           |
| 21<br>x<br>12<br><br>1.75<br>SQ. FT. | 3A1                              | CFM/SIDE<br>THROW, FT. | A 225<br>B 75<br>18-22-31 8-13-15   | A 300<br>B 100<br>21-25-35 11-14-18 | A 375<br>B 125<br>24-28-41 13-15-21 | A 450<br>B 150<br>25-31-45 14-17-22 | A 525<br>B 175<br>27-32-48 14-18-24  | A 600<br>B 200<br>29-35-50 15-20-25  | A 675<br>B 225<br>31-39-53 17-21-27  |
|                                      | 3A2                              | CFM/SIDE<br>THROW, FT. | A 230<br>B 148<br>14-17-24 13-15-21 | A 306<br>B 197<br>15-20-27 14-17-24 | A 382<br>B 246<br>17-22-31 15-20-27 | A 460<br>B 295<br>18-24-32 17-21-31 | A 535<br>B 345<br>20-25-35 18-22-31  | A 612<br>B 394<br>21-27-36 20-24-34  | A 688<br>B 443<br>22-31-41 21-25-35  |
|                                      | 2A<br>2B                         | CFM/SIDE<br>THROW, FT. | A 262<br>B 187<br>18-22-31          | A 350<br>B 248<br>21-25-35          | A 437<br>B 312<br>24-28-41          | A 525<br>B 375<br>25-31-45          | A 612<br>B 437<br>27-32-48           | A 700<br>B 500<br>29-35-50           | A 787<br>B 562<br>31-39-53           |
|                                      | 2C  2E  2D  2F                   | CFM/SIDE<br>THROW, FT. | A 375<br>B 150<br>21-25-35 14-17-24 | A 500<br>B 200<br>24-31-42 15-20-27 | A 625<br>B 250<br>27-34-48 17-22-31 | A 750<br>B 300<br>29-36-50 18-24-32 | A 875<br>B 350<br>31-39-55 20-25-35  | A 1000<br>B 400<br>34-42-59 21-27-36 | A 1125<br>B 450<br>35-45-62 22-31-41 |
|                                      | 1A<br>1B                         | CFM/SIDE<br>THROW, FT. | A 525<br>B 437<br>22-27-39          | A 700<br>B 575<br>25-31-45          | A 875<br>B 712<br>28-35-50          | A 1050<br>B 875<br>31-39-55         | A 1225<br>B 1000<br>32-42-59         | A 1400<br>B 1125<br>35-45-62         | A 1575<br>B 1287<br>39-48-66         |
|                                      | RETURN FACTORS —SP=2.6 TP NC + 5 | CFM NC                 | 600<br>12                           | 800<br>21                           | 1000<br>27                          | 1200<br>32                          | 1400<br>36                           | 1600<br>40                           | 1800<br>43                           |
|                                      | 4B  4C                           | CFM/SIDE<br>THROW, FT. | A 225<br>B 75<br>18-22-31 8-13-15   | A 300<br>B 100<br>21-25-35 11-14-18 | A 375<br>B 125<br>24-28-41 13-15-21 | A 450<br>B 150<br>25-31-45 14-17-22 | A 525<br>B 175<br>27-32-48 14-18-24  | A 600<br>B 200<br>31-35-50 15-20-25  | A 675<br>B 225<br>31-39-53 17-21-27  |
|                                      | 4E                               | CFM/SIDE<br>THROW, FT. | A 150<br>B 150<br>15-18-25 15-18-25 | A 200<br>B 200<br>18-21-31 18-21-31 | A 250<br>B 250<br>21-24-34 21-24-34 | A 300<br>B 300<br>22-25-36 22-25-36 | A 350<br>B 350<br>24-27-39 24-27-39  | A 400<br>B 400<br>25-31-42 25-31-42  | A 450<br>B 450<br>27-31-45 27-31-45  |
|                                      | 3A1                              | CFM/SIDE<br>THROW, FT. | A 262<br>B 75<br>18-22-31 8-13-15   | A 350<br>B 100<br>21-25-35 11-14-18 | A 437<br>B 175<br>24-28-41 13-15-21 | A 525<br>B 150<br>25-31-45 14-17-22 | A 612<br>B 175<br>27-32-48 14-18-24  | A 700<br>B 200<br>29-35-50 15-20-25  | A 787<br>B 225<br>31-39-53 17-21-27  |
|                                      | 3B                               | CFM/SIDE<br>THROW, FT. | A 300<br>B 150<br>15-18-25 14-17-24 | A 400<br>B 200<br>18-21-31 15-20-27 | A 500<br>B 250<br>21-24-34 17-22-31 | A 600<br>B 300<br>22-25-36 18-24-32 | A 700<br>B 350<br>24-27-39 20-25-35  | A 800<br>B 400<br>25-31-42 21-27-36  | A 900<br>B 450<br>27-31-45 22-31-41  |
| 24<br>x<br>12<br><br>2.0<br>SQ. FT.  | 2A<br>2B                         | CFM/SIDE<br>THROW, FT. | A 300<br>B 248<br>20-24-34          | A 400<br>B 312<br>22-27-39          | A 500<br>B 375<br>25-31-45          | A 600<br>B 450<br>27-32-48          | A 700<br>B 525<br>29-35-50           | A 800<br>B 600<br>31-36-55           | A 900<br>B 675<br>34-41-57           |
|                                      | 2C  2E  2D  2F                   | CFM/SIDE<br>THROW, FT. | A 450<br>B 150<br>21-25-35 14-17-24 | A 600<br>B 200<br>24-31-42 15-20-27 | A 750<br>B 250<br>27-34-48 17-22-31 | A 900<br>B 300<br>29-36-50 18-24-32 | A 1050<br>B 350<br>31-39-55 20-25-35 | A 1200<br>B 400<br>34-42-59 21-27-36 | A 1350<br>B 450<br>35-45-62 22-31-41 |
|                                      | 1A<br>1B                         | CFM/SIDE<br>THROW, FT. | A 600<br>B 500<br>24-31-42          | A 800<br>B 675<br>28-34-48          | A 1000<br>B 825<br>32-39-55         | A 1200<br>B 1000<br>34-42-57        | A 1400<br>B 1125<br>36-45-62         | A 1600<br>B 1350<br>41-49-66         | A 1800<br>B 1500<br>43-52-70         |

#### Notes:

- Core style 4E is sized to give equal flow as near as possible in directions A and B.
- For core styles 1A, 1B, 2A and 2B, the "A" direction is shown. Throw correction factor for "B" direction is: A x .82 = B.

For performance notes, see page D32.

## Performance Data

### Models 6500 and 6200 • Rectangular Neck

| NOMINAL<br>NECK<br>SIZE               | BLOW<br>PATTERNS                    | NECK<br>VELOCITY<br>TP | 300<br>.033                  | 400<br>.058                   | 500<br>.090                   | 600<br>.130                   | 700<br>.177                   | 800<br>.231                   | 900<br>.293                   |
|---------------------------------------|-------------------------------------|------------------------|------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|
| 30<br>x<br>12<br><br>2.5<br>SQ. FT.   | RETURN FACTORS —SP=3.3 TP<br>NC + 6 | CFM<br>NC              | 750<br>15                    | 1000<br>23                    | 1250<br>29                    | 1500<br>33                    | 1750<br>37                    | 2000<br>41                    | 2250<br>43                    |
|                                       | 4B  4C                              | CFM/SIDE<br>THROW, FT. | 300 75<br>20-24-34 8-13-15   | 400 100<br>22-27-39 11-14-18  | 500 125<br>25-31-45 13-15-21  | 600 150<br>27-32-48 14-17-22  | 700 175<br>29-35-50 14-18-24  | 800 200<br>31-36-55 15-20-25  | 900 225<br>34-41-57 17-21-27  |
|                                       | 4E                                  | CFM/SIDE<br>THROW, FT. | 183 183<br>17-21-28 17-21-28 | 250 250<br>20-24-32 20-24-32  | 313 313<br>22-27-36 22-27-36  | 375 375<br>24-31-41 24-31-41  | 437 437<br>25-31-43 25-31-43  | 500 500<br>27-34-46 27-34-46  | 562 562<br>31-35-49 31-35-49  |
|                                       | 3A1                                 | CFM/SIDE<br>THROW, FT. | 337 75<br>20-24-34 8-13-15   | 450 100<br>22-27-39 11-14-18  | 562 125<br>25-31-45 13-15-21  | 675 150<br>27-32-48 14-17-22  | 787 175<br>29-35-50 14-18-24  | 900 200<br>31-36-55 15-20-25  | 1012 225<br>34-41-57 17-21-27 |
|                                       | 2A<br>2B                            | CFM/SIDE<br>THROW, FT. | 375<br>21-25-35              | 500<br>24-31-42               | 625<br>27-34-48               | 750<br>29-36-50               | 875<br>31-39-55               | 1000<br>34-42-59              | 1125<br>35-45-62              |
|                                       | 2C<br>2E                            | CFM/SIDE<br>THROW, FT. | 600 150<br>24-31-41 14-17-24 | 800 200<br>28-34-48 15-20-27  | 1000 250<br>32-39-55 17-22-31 | 1200 300<br>34-42-57 18-24-32 | 1400 350<br>36-45-62 20-25-35 | 1600 400<br>41-49-66 21-27-36 | 1800 450<br>43-52-70 22-31-41 |
|                                       | 1A<br>1B                            | CFM/SIDE<br>THROW, FT. | 750<br>25-31-45              | 1000<br>31-35-50              | 1250<br>34-41-57              | 1500<br>36-45-62              | 1750<br>39-48-66              | 2000<br>42-50-70              | 2250<br>45-53-74              |
|                                       | RETURN FACTORS —SP=4.0 TP<br>NC + 7 | CFM<br>NC              | 900<br>16                    | 1200<br>25                    | 1500<br>30                    | 1800<br>34                    | 2100<br>38                    | 2400<br>42                    | 2700<br>44                    |
|                                       | 4B  4C                              | CFM/SIDE<br>THROW, FT. | 375 75<br>21-25-35 8-13-15   | 500 100<br>24-31-42 11-14-18  | 625 125<br>27-34-48 13-15-21  | 750 150<br>29-36-50 14-17-22  | 875 175<br>31-39-55 14-18-24  | 1000 200<br>34-42-59 15-20-25 | 1125 225<br>35-45-62 17-21-27 |
|                                       | 4E                                  | CFM/SIDE<br>THROW, FT. | 225 225<br>18-22-31 18-22-31 | 300 300<br>21-25-35 21-25-35  | 375 375<br>24-28-41 24-28-41  | 450 450<br>25-31-45 25-31-45  | 525 525<br>27-32-48 27-32-48  | 600 600<br>29-35-50 29-35-50  | 675 675<br>31-39-53 31-39-53  |
| 36<br>x<br>12<br><br>3.0<br>SQ. FT.   | 3A1                                 | CFM/SIDE<br>THROW, FT. | 412 75<br>21-25-35 8-13-15   | 550 100<br>24-31-42 11-14-18  | 687 125<br>27-34-48 13-15-21  | 825 150<br>29-36-50 14-17-22  | 962 175<br>31-39-55 14-18-24  | 1100 200<br>34-42-59 15-20-25 | 1237 225<br>35-45-62 17-21-27 |
|                                       | 2A<br>2B                            | CFM/SIDE<br>THROW, FT. | 450<br>21-25-35              | 600<br>24-31-42               | 750<br>27-34-48               | 900<br>29-36-50               | 1050<br>31-39-55              | 1200<br>34-42-59              | 1350<br>35-45-62              |
|                                       | 2C<br>2E                            | CFM/SIDE<br>THROW, FT. | 750 150<br>25-31-45 14-17-24 | 1000 200<br>31-35-50 15-20-27 | 1250 250<br>34-41-57 17-22-31 | 1500 300<br>36-45-62 18-24-32 | 1750 350<br>39-48-66 20-25-35 | 2000 400<br>42-50-70 21-27-36 | 2250 450<br>45-53-74 22-31-41 |
|                                       | 1A<br>1B                            | CFM/SIDE<br>THROW, FT. | 900<br>27-34-46              | 1200<br>31-39-53              | 1500<br>35-45-60              | 1800<br>39-48-64              | 2100<br>42-50-70              | 2400<br>45-55-74              | 2700<br>48-57-80              |
|                                       | RETURN FACTORS —SP=2.0 TP<br>NC + 4 | CFM<br>NC              | 560<br>14                    | 750<br>21                     | 935<br>28                     | 1125<br>32                    | 1310<br>36                    | 1500<br>39                    | 1685<br>43                    |
|                                       | 4B  4C                              | CFM/SIDE<br>THROW, FT. | 164 117<br>14-17-24 11-14-18 | 219 156<br>15-20-27 13-15-21  | 273 195<br>17-22-31 14-17-24  | 328 234<br>18-24-32 15-18-25  | 383 273<br>20-25-35 17-20-27  | 438 312<br>21-27-36 17-21-31  | 492 351<br>22-31-41 18-22-31  |
|                                       | 3A1                                 | CFM/SIDE<br>THROW, FT. | 222 117<br>18-22-31 11-14-18 | 297 156<br>21-25-35 13-15-21  | 371 195<br>24-28-41 14-17-24  | 445 234<br>25-31-45 15-18-25  | 519 273<br>31-39-55 17-20-27  | 594 312<br>31-35-50 17-21-31  | 668 351<br>31-39-53 18-22-31  |
|                                       | 3A2                                 | CFM/SIDE<br>THROW, FT. | 168 197<br>13-16-22 18-22-30 | 225 262<br>15-18-25 21-25-34  | 281 328<br>16-21-28 24-28-39  | 337 394<br>18-22-33 25-33-43  | 394 459<br>19-24-33 27-33-46  | 450 525<br>21-25-36 28-36-49  | 506 590<br>22-27-37 33-37-52  |
|                                       | 2A<br>2B                            | CFM/SIDE<br>THROW, FT. | 281<br>20-24-34              | 375<br>22-27-39               | 468<br>25-31-45               | 562<br>27-32-48               | 656<br>29-35-50               | 750<br>31-36-55               | 843<br>34-41-57               |
|                                       | 2C<br>2E                            | CFM/SIDE<br>THROW, FT. | 329 234<br>25-33-45 18-22-30 | 438 312<br>30-36-51 21-25-34  | 547 390<br>34-42-58 24-28-39  | 657 468<br>36-45-61 25-31-43  | 766 546<br>39-48-66 27-33-46  | 876 624<br>43-52-70 28-36-49  | 985 702<br>46-55-75 33-37-52  |
| 18<br>x<br>15<br><br>1.875<br>SQ. FT. | 1A<br>1B                            | CFM/SIDE<br>THROW, FT. | 562<br>24-28-42              | 750<br>27-33-48               | 937<br>30-37-54               | 1125<br>33-42-58              | 1312<br>34-45-63              | 1500<br>37-48-66              | 1687<br>42-51-70              |

#### Notes:

- Core style 4E is sized to give equal flow as near as possible in directions A and B.
- For core styles 1A, 1B, 2A and 2B, the "A" direction is shown. Throw correction factor for "B" direction is:  $A \times .82 = B$ .

For performance notes, see page D32.

D

CEILING DIFFUSERS

## Performance Data

### Models 6500 and 6200 • Rectangular Neck

| NOMINAL<br>NECK<br>SIZE               | BLOW<br>PATTERNS                    | NECK<br>VELOCITY<br>TP | 300<br>.033                  | 400<br>.058                  | 500<br>.090                   | 600<br>.130                   | 700<br>.177                   | 800<br>.231                   | 900<br>.293                   |
|---------------------------------------|-------------------------------------|------------------------|------------------------------|------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|
| 21<br>x<br>15<br><br>2.185<br>SQ. FT. | RETURN FACTORS —SP=2.1 TP<br>NC + 5 | CFM<br>NC              | 655<br>14                    | 875<br>21                    | 1090<br>28                    | 1310<br>33                    | 1530<br>36                    | 1750<br>39                    | 1970<br>43                    |
|                                       | 4B  4C                              | CFM/SIDE<br>THROW, FT. | 210 117<br>19-24-33 12-15-19 | 281 156<br>22-27-37 13-16-22 | 361 195<br>25-30-43 15-18-25  | 422 234<br>27-33-48 16-19-27  | 493 273<br>28-34-51 18-21-28  | 563 312<br>33-37-54 18-22-33  | 634 351<br>33-42-57 19-24-33  |
|                                       | 4E                                  | CFM/SIDE<br>THROW, FT. | 164 164<br>18-22-30 18-22-30 | 218 218<br>21-25-36 21-25-36 | 273 273<br>24-28-39 24-28-39  | 327 327<br>25-31-43 25-31-43  | 382 382<br>27-33-46 27-33-46  | 437 437<br>28-36-49 28-36-49  | 491 491<br>33-37-52 33-37-52  |
|                                       | 3A1                                 | CFM/SIDE<br>THROW, FT. | 269 117<br>19-24-33 12-15-19 | 359 156<br>22-27-37 13-16-22 | 448 195<br>25-30-43 15-18-25  | 539 234<br>27-33-48 16-19-27  | 629 273<br>28-34-51 18-21-28  | 719 312<br>33-37-54 18-22-33  | 809 351<br>33-42-57 19-24-33  |
|                                       | 3A2                                 | CFM/SIDE<br>THROW, FT. | 230 213<br>16-19-27 15-18-25 | 306 284<br>19-22-33 16-21-28 | 382 355<br>22-25-36 18-24-33  | 460 426<br>24-27-39 19-25-34  | 535 498<br>25-28-42 21-27-37  | 612 569<br>27-31-45 22-28-39  | 688 641<br>28-33-48 24-33-43  |
|                                       | 2A<br>2B                            | CFM/SIDE<br>THROW, FT. | 327<br>21-25-36              | 437<br>24-28-42              | 596<br>27-33-48               | 656<br>28-34-51               | 766<br>31-37-54               | 875<br>33-39-58               | 985<br>36-43-61               |
|                                       | 2C  2D<br>2E  2F                    | CFM/SIDE<br>THROW, FT. | 422 234<br>22-27-37 18-22-30 | 563 312<br>25-33-45 21-25-34 | 702 390<br>28-36-51 24-28-39  | 844 468<br>29-39-54 25-33-43  | 966 546<br>33-42-58 27-33-46  | 1126 624<br>36-45-63 28-36-49 | 1268 702<br>37-48-66 33-37-52 |
|                                       | 1A<br>1B                            | CFM/SIDE<br>THROW, FT. | 655<br>25-33-45              | 875<br>30-36-51              | 1092<br>33-42-58              | 1312<br>36-45-61              | 1532<br>39-48-66              | 1750<br>43-52-70              | 1970<br>46-55-75              |
|                                       | RETURN FACTORS —SP=2.6 TP<br>NC + 6 | CFM<br>NC              | 750<br>14                    | 1000<br>22                   | 1250<br>29                    | 1500<br>34                    | 1750<br>37                    | 2000<br>39                    | 2250<br>44                    |
|                                       | 4B  4C                              | CFM/SIDE<br>THROW, FT. | 258 117<br>19-24-33 12-15-19 | 344 156<br>22-27-37 13-16-22 | 430 195<br>25-30-43 15-18-25  | 516 234<br>27-33-48 16-19-27  | 602 273<br>28-34-51 18-21-28  | 688 312<br>31-37-54 18-22-31  | 774 351<br>33-42-57 19-24-33  |
| 24<br>x<br>15<br><br>2.5<br>SQ. FT.   | 4E                                  | CFM/SIDE<br>THROW, FT. | 164 211<br>18-22-30 19-24-33 | 218 281<br>21-25-36 22-27-37 | 273 352<br>24-28-39 25-30-43  | 327 422<br>25-31-43 27-33-48  | 382 492<br>27-33-46 28-34-51  | 437 563<br>28-36-49 33-37-54  | 491 633<br>33-37-52 33-42-57  |
|                                       | 3A1                                 | CFM/SIDE<br>THROW, FT. | 316 117<br>21-25-36 12-15-19 | 422 156<br>24-28-42 13-16-22 | 527 195<br>27-33-48 15-18-25  | 633 234<br>28-34-51 16-19-27  | 738 273<br>31-37-54 18-21-28  | 844 312<br>33-39-58 18-22-31  | 949 351<br>36-43-61 19-24-33  |
|                                       | 3A2                                 | CFM/SIDE<br>THROW, FT. | 300 225<br>19-24-33 16-19-27 | 400 300<br>22-27-37 19-22-33 | 500 375<br>25-30-43 22-25-36  | 600 450<br>27-33-48 24-27-39  | 700 525<br>28-34-51 25-28-42  | 800 600<br>31-37-54 27-33-45  | 900 675<br>33-42-57 28-33-48  |
|                                       | 2A<br>2B                            | CFM/SIDE<br>THROW, FT. | 375<br>22-27-37              | 500<br>25-33-45              | 625<br>28-36-51               | 750<br>31-39-54               | 875<br>33-42-58               | 1000<br>36-45-63              | 1125<br>37-48-66              |
|                                       | 2C  2D<br>2E  2F                    | CFM/SIDE<br>THROW, FT. | 516 234<br>24-28-42 18-22-30 | 688 312<br>27-33-48 21-25-34 | 860 390<br>30-37-54 24-28-39  | 1032 468<br>33-42-58 25-31-43 | 1204 546<br>34-45-63 27-33-46 | 1376 624<br>37-48-66 28-36-49 | 1548 702<br>42-51-70 33-37-52 |
|                                       | 1A<br>1B                            | CFM/SIDE<br>THROW, FT. | 750<br>27-33-48              | 1000<br>33-37-54             | 1250<br>36-43-61              | 1500<br>39-48-66              | 1750<br>41-51-70              | 2000<br>45-54-75              | 2250<br>48-57-79              |
|                                       | RETURN FACTORS —SP=3.1 TP<br>NC + 7 | CFM<br>NC              | 935<br>14                    | 1250<br>23                   | 1565<br>30                    | 1875<br>36                    | 2190<br>39                    | 2500<br>40                    | 2810<br>45                    |
|                                       | 4B  4C                              | CFM/SIDE<br>THROW, FT. | 351 117<br>20-24-34 11-14-18 | 469 156<br>22-27-39 13-15-21 | 587 195<br>25-31-45 14-17-24  | 703 234<br>27-32-48 15-18-25  | 822 273<br>29-35-50 17-20-27  | 938 312<br>31-36-55 17-21-29  | 1054 351<br>34-41-57 18-22-31 |
|                                       | 4E                                  | CFM/SIDE<br>THROW, FT. | 258 211<br>18-22-31 18-22-31 | 344 281<br>21-25-31 21-25-35 | 430 352<br>24-28-41 24-28-41  | 516 422<br>25-31-45 25-31-45  | 602 492<br>27-32-48 27-32-48  | 688 583<br>31-35-50 31-35-50  | 775 633<br>31-39-53 31-39-53  |
|                                       | 3A1                                 | CFM/SIDE<br>THROW, FT. | 410 117<br>21-25-35 11-14-18 | 547 156<br>24-31-42 13-15-21 | 685 195<br>27-34-48 14-17-24  | 820 234<br>29-36-50 15-18-25  | 958 273<br>31-39-55 17-20-27  | 1094 312<br>34-42-59 17-21-29 | 1224 351<br>35-45-62 18-22-31 |
| 30<br>x<br>15<br><br>3.125<br>SQ. FT. | 3B                                  | CFM/SIDE<br>THROW, FT. | 468 234<br>24-30-40 18-22-30 | 625 312<br>28-34-46 21-25-34 | 782 391<br>32-38-52 24-28-39  | 937 469<br>34-44-58 25-33-43  | 1095 547<br>36-44-62 27-33-46 | 1250 625<br>38-48-66 28-36-49 | 1406 702<br>44-50-70 33-37-52 |
|                                       | 2A<br>2B                            | CFM/SIDE<br>THROW, FT. | 468<br>22-27-39              | 625<br>25-31-45              | 782<br>28-35-50               | 937<br>31-39-55               | 1095<br>32-42-59              | 1250<br>35-45-62              | 1405<br>39-48-66              |
|                                       | 2C  2D<br>2E  2F                    | CFM/SIDE<br>THROW, FT. | 702 234<br>25-33-45 18-22-30 | 938 312<br>30-36-51 21-25-34 | 1175 390<br>34-42-58 24-28-39 | 1407 468<br>36-45-61 25-33-43 | 1644 546<br>39-48-66 27-33-46 | 1876 624<br>43-52-70 28-36-49 | 2108 702<br>51-55-75 33-37-52 |
|                                       | 1A<br>1B                            | CFM/SIDE<br>THROW, FT. | 937<br>28-36-49              | 1250<br>33-42-57             | 1565<br>37-48-64              | 1875<br>42-51-69              | 2190<br>45-54-75              | 2500<br>48-58-79              | 2810<br>51-61-85              |

#### Notes:

- Core style 4E is sized to give equal flow as near as possible in directions A and B.
- For core styles 1A, 1B, 2A and 2B, the "A" direction is shown. Throw correction factor for "B" direction is: A x .82 = B.

For performance notes, see page D32.

## Performance Data

### Models 6500 and 6200 • Rectangular Neck

| NOMINAL<br>NECK<br>SIZE               | BLOW<br>PATTERNS                    | NECK<br>VELOCITY<br>TP | 300<br>.033                  | 400<br>.058                   | 500<br>.090                   | 600<br>.130                   | 700<br>.177                   | 800<br>.231                   | 900<br>.293                    |
|---------------------------------------|-------------------------------------|------------------------|------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|--------------------------------|
| 36<br>x<br>15<br><br>3.75<br>SQ. FT.  | RETURN FACTORS —SP=3.8 TP<br>NC + 7 | CFM<br>NC              | 1125<br>13                   | 1500<br>23                    | 1875<br>31                    | 2250<br>37                    | 2625<br>40                    | 3000<br>41                    | 3375<br>46                     |
|                                       | 4B  4C                              | CFM/SIDE<br>THROW, FT. | 446 117<br>22-27-37 12-15-19 | 594 156<br>25-33-45 13-16-22  | 742 195<br>28-36-51 15-18-25  | 891 234<br>33-39-54 16-19-27  | 1039 273<br>33-45-58 18-21-28 | 1188 312<br>36-45-63 18-22-30 | 1336 351<br>37-48-66 19-24-33  |
|                                       | 4E                                  | CFM/SIDE<br>THROW, FT. | 306 258<br>21-25-36 19-24-33 | 408 344<br>24-28-42 22-27-37  | 510 430<br>27-33-48 25-30-43  | 612 516<br>28-34-51 27-33-48  | 714 602<br>33-37-54 28-34-51  | 816 688<br>33-39-58 33-37-54  | 918 775<br>36-43-61 33-42-57   |
|                                       | 3A1                                 | CFM/SIDE<br>THROW, FT. | 504 117<br>24-28-42 12-15-19 | 672 156<br>27-33-48 13-16-22  | 840 195<br>30-37-54 15-18-25  | 1008 234<br>33-45-58 16-19-27 | 1176 273<br>34-45-63 18-21-28 | 1344 312<br>37-48-66 18-22-30 | 1512 351<br>42-51-70 19-24-33  |
|                                       | 2A<br>2B                            | CFM/SIDE<br>THROW, FT. | 562<br>24-28-42              | 750<br>27-33-48               | 937<br>30-37-54               | 1125<br>33-42-58              | 1312<br>34-45-63              | 1500<br>37-48-66              | 1682<br>42-51-70               |
|                                       | 2C  2E  2D<br>2F                    | CFM/SIDE<br>THROW, FT. | 890 234<br>28-36-49 18-22-30 | 1188 312<br>33-42-49 21-25-34 | 1485 390<br>37-48-64 24-28-39 | 1782 468<br>42-51-69 25-33-43 | 2079 546<br>45-54-75 27-33-46 | 2376 624<br>48-58-79 28-36-49 | 2873 702<br>51-61-85 33-37-52  |
|                                       | 1A<br>1B                            | CFM/SIDE<br>THROW, FT. | 1125<br>30-37-52             | 1500<br>34-43-60              | 1875<br>39-48-67              | 2250<br>42-52-73              | 2625<br>46-57-78              | 3000<br>49-60-85              | 3375<br>52-64-90               |
| 21<br>x<br>18<br><br>2.625<br>SQ. FT. | RETURN FACTORS —SP=2.2 TP<br>NC + 5 | CFM<br>NC              | 785<br>14                    | 1050<br>21                    | 1310<br>27                    | 1575<br>32                    | 1840<br>36                    | 2100<br>40                    | 2360<br>43                     |
|                                       | 4B  4C                              | CFM/SIDE<br>THROW, FT. | 225 169<br>16-19-27 13-16-22 | 300 225<br>19-22-33 15-18-25  | 375 280<br>22-25-36 16-21-28  | 450 337<br>24-27-40 18-22-30  | 526 394<br>25-28-42 19-24-33  | 600 450<br>27-33-45 21-25-36  | 674 506<br>28-33-48 22-27-37   |
|                                       | 3A1                                 | CFM/SIDE<br>THROW, FT. | 309 169<br>21-25-36 13-16-22 | 412 225<br>24-28-42 15-18-25  | 514 281<br>27-33-48 16-21-28  | 619 337<br>28-34-51 18-22-30  | 723 394<br>33-37-54 19-24-33  | 825 450<br>33-39-58 21-25-36  | 927 506<br>36-43-61 22-27-37   |
|                                       | 3A2                                 | CFM/SIDE<br>THROW, FT. | 279 372<br>21-25-36 15-18-25 | 372 306<br>24-28-42 16-21-28  | 464 382<br>27-33-48 18-24-33  | 557 460<br>28-34-51 19-25-34  | 652 535<br>33-37-54 21-27-37  | 744 612<br>33-39-58 22-28-39  | 836 688<br>36-43-61 24-33-43   |
|                                       | 2A<br>2B                            | CFM/SIDE<br>THROW, FT. | 393<br>22-27-37              | 525<br>25-33-42               | 655<br>28-36-46               | 787<br>30-39-54               | 920<br>33-42-58               | 1050<br>36-45-63              | 1180<br>37-48-66               |
|                                       | 2C  2E  2D<br>2F                    | CFM/SIDE<br>THROW, FT. | 450 338<br>22-27-37 19-24-33 | 600 450<br>25-33-42 22-27-37  | 750 560<br>28-36-46 25-30-43  | 900 675<br>30-39-54 27-33-48  | 1060 790<br>33-42-58 28-34-51 | 1200 900<br>36-45-63 33-37-54 | 1350 1010<br>37-48-66 33-42-57 |
|                                       | 1A<br>1B                            | CFM/SIDE<br>THROW, FT. | 787<br>29-35-51              | 1050<br>35-40-58              | 1310<br>38-46-66              | 1575<br>42-51-70              | 1840<br>45-54-75              | 2100<br>48-58-80              | 2360<br>51-61-85               |
| 24<br>x<br>18<br><br>3.0<br>SQ. FT.   | RETURN FACTORS —SP=2.5 TP<br>NC + 6 | CFM<br>NC              | 900<br>15                    | 1200<br>22                    | 1500<br>28                    | 1800<br>33                    | 2100<br>37                    | 2400<br>40                    | 2700<br>43                     |
|                                       | 4B  4C                              | CFM/SIDE<br>THROW, FT. | 281 169<br>22-27-38 14-18-24 | 375 225<br>26-30-45 16-19-27  | 469 281<br>29-35-51 18-22-30  | 563 337<br>30-37-54 19-24-33  | 656 394<br>33-40-58 21-26-35  | 750 450<br>35-42-62 22-27-38  | 844 506<br>38-46-66 24-29-40   |
|                                       | 4E                                  | CFM/SIDE<br>THROW, FT. | 225 225<br>21-26-35 21-26-35 | 300 300<br>24-29-40 24-29-40  | 375 375<br>27-32-46 27-32-46  | 450 450<br>29-35-51 29-35-51  | 525 525<br>30-37-54 30-37-54  | 600 600<br>33-40-58 33-40-58  | 675 675<br>35-45-61 35-45-61   |
|                                       | 3A1                                 | CFM/SIDE<br>THROW, FT. | 366 169<br>24-29-40 14-18-24 | 487 225<br>27-35-48 16-19-27  | 609 281<br>30-38-54 18-22-30  | 731 337<br>35-42-58 19-24-33  | 853 394<br>35-45-62 21-26-35  | 975 450<br>38-48-67 22-27-38  | 1098 506<br>40-51-70 24-29-40  |
|                                       | 3A2                                 | CFM/SIDE<br>THROW, FT. | 300 300<br>25-31-43 20-23-32 | 400 400<br>29-34-50 23-27-40  | 500 500<br>32-40-58 27-31-43  | 600 600<br>34-41-61 29-32-47  | 700 700<br>40-45-65 31-34-50  | 800 800<br>40-47-70 32-40-54  | 900 900<br>43-52-74 34-40-58   |
|                                       | 2A<br>2B                            | CFM/SIDE<br>THROW, FT. | 450<br>24-29-40              | 600<br>27-35-48               | 750<br>30-38-54               | 900<br>35-42-58               | 1050<br>35-45-62              | 1200<br>38-48-67              | 1350<br>40-51-70               |
|                                       | 2C  2E  2D<br>2F                    | CFM/SIDE<br>THROW, FT. | 562 338<br>26-30-45 21-26-35 | 750 450<br>29-35-51 24-29-40  | 938 562<br>32-40-58 27-32-46  | 1125 675<br>35-45-62 29-35-51 | 1313 787<br>37-48-67 30-37-54 | 1500 900<br>40-51-70 33-40-58 | 1688 1012<br>45-54-75 35-45-61 |
|                                       | 1A<br>1B                            | CFM/SIDE<br>THROW, FT. | 900<br>30-38-53              | 1200<br>35-45-61              | 1500<br>40-51-69              | 1800<br>45-54-74              | 2100<br>48-58-80              | 2400<br>51-62-85              | 2700<br>54-66-91               |

#### Notes:

- Core style 4E is sized to give equal flow as near as possible in directions A and B.
- For core styles 1A, 1B, 2A and 2B, the "A" direction is shown. Throw correction factor for "B" direction is: A x .82 = B.

For performance notes, see page D32.

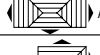
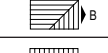
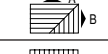
D

CEILING DIFFUSERS



## Performance Data

### Models 6500 and 6200 • Rectangular Neck

| NOMINAL<br>NECK<br>SIZE              | BLOW<br>PATTERNS                                                                                                                                                                                                                                                                                                                                               | NECK<br>VELOCITY<br>TP | 300<br>.033                   | 400<br>.058                   | 500<br>.090                   | 600<br>.130                   | 700<br>.177                    | 800<br>.231                    | 900<br>.293                    |
|--------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|--------------------------------|--------------------------------|--------------------------------|
| 30<br>x<br>18<br><br>3.75<br>SQ. FT. | RETURN FACTORS —SP=3.1 TP<br>NC + 7                                                                                                                                                                                                                                                                                                                            | CFM<br>NC              | 1125<br>15                    | 1500<br>23                    | 1875<br>29                    | 2250<br>34                    | 2625<br>38                     | 3000<br>42                     | 3375<br>45                     |
|                                      |  4B  4C                                                                                                                                                                                      | CFM/SIDE<br>THROW, FT. | 394 169<br>24-29-40 14-18-24  | 525 225<br>27-35-48 16-19-27  | 657 281<br>30-38-54 18-22-30  | 788 337<br>35-42-58 19-24-35  | 918 394<br>35-45-62 21-26-35   | 1050 450<br>38-48-67 22-27-38  | 1181 506<br>40-51-70 24-29-40  |
|                                      |  4E                                                                                                                                                                                                                                                                           | CFM/SIDE<br>THROW, FT. | 281 281<br>22-27-38 22-27-38  | 375 375<br>26-30-45 26-30-45  | 469 469<br>29-35-51 29-35-51  | 563 563<br>30-37-54 30-37-54  | 657 657<br>32-40-58 32-40-58   | 750 750<br>35-42-62 35-42-62   | 845 845<br>38-46-66 38-46-66   |
|                                      |  3A1                                                                                                                                                                                                                                                                          | CFM/SIDE<br>THROW, FT. | 478 169<br>26-30-45 14-18-24  | 637 225<br>29-35-51 16-19-27  | 797 281<br>32-40-58 18-22-30  | 956 337<br>35-45-62 19-24-35  | 1115 394<br>37-48-67 21-26-35  | 1275 450<br>40-51-70 22-27-38  | 1434 506<br>45-54-75 24-29-40  |
|                                      |  3A2                                                                                                                                                                                                                                                                          | CFM/SIDE<br>THROW, FT. | 469 327<br>22-27-38 19-24-32  | 625 437<br>26-30-45 22-27-37  | 782 546<br>29-35-51 26-30-42  | 937 656<br>30-37-54 27-35-46  | 1093 766<br>32-40-58 29-35-50  | 1250 875<br>35-42-62 30-38-53  | 1406 984<br>38-46-66 35-40-56  |
|                                      |  2A<br> 2B                                                                                                                                                                                   | CFM/SIDE<br>THROW, FT. | 562<br>26-30-45               | 750<br>29-35-51               | 937<br>32-40-58               | 1125<br>35-45-62              | 1312<br>37-48-67               | 1500<br>40-51-70               | 1687<br>45-54-75               |
|                                      |  2C  2D<br> 2E  2F         | CFM/SIDE<br>THROW, FT. | 787 337<br>29-35-51 21-26-35  | 1050 450<br>35-40-58 24-29-40 | 1313 562<br>38-46-66 27-32-46 | 1575 675<br>42-51-70 29-35-51 | 1838 787<br>45-54-75 30-37-54  | 2100 900<br>48-58-80 33-40-58  | 2363 1012<br>51-61-85 35-45-61 |
|                                      |  1A<br> 1B                                                                                                                                                                                   | CFM/SIDE<br>THROW, FT. | 1125<br>32-40-56              | 1500<br>37-46-62              | 1875<br>42-53-72              | 2250<br>46-56-78              | 2625<br>50-61-83               | 3000<br>53-64-91               | 3375<br>56-69-96               |
|                                      | RETURN FACTORS —SP=3.6 TP<br>NC + 8                                                                                                                                                                                                                                                                                                                            | CFM<br>NC              | 1350<br>16                    | 1800<br>24                    | 2250<br>30                    | 2700<br>35                    | 3150<br>39                     | 3600<br>42                     | 4050<br>45                     |
|                                      |  4B  4C                                                                                                                                                                                      | CFM/SIDE<br>THROW, FT. | 506 169<br>26-30-45 14-18-24  | 675 225<br>29-35-51 16-19-27  | 844 281<br>33-40-58 18-22-30  | 1013 337<br>35-45-62 19-24-35 | 1181 394<br>37-48-67 21-26-35  | 1350 450<br>40-51-70 22-27-38  | 1519 506<br>45-54-75 24-29-40  |
| 36<br>x<br>18<br><br>4.5<br>SQ. FT.  |  4E                                                                                                                                                                                                                                                                           | CFM/SIDE<br>THROW, FT. | 339 339<br>22-27-38 22-27-38  | 452 452<br>26-30-45 26-30-45  | 565 565<br>29-35-51 29-35-51  | 678 678<br>30-37-54 30-37-54  | 791 791<br>33-40-58 33-40-58   | 904 904<br>35-42-62 35-42-62   | 1020 1020<br>38-46-66 38-46-66 |
|                                      |  3A1                                                                                                                                                                                                                                                                         | CFM/SIDE<br>THROW, FT. | 591 169<br>27-35-48 14-18-24  | 787 225<br>32-38-54 16-19-27  | 984 281<br>37-45-62 18-22-30  | 1181 337<br>38-48-66 19-24-35 | 1378 394<br>42-51-70 21-26-35  | 1575 450<br>46-56-75 22-27-38  | 1772 506<br>50-59-80 24-29-40  |
|                                      |  3B                                                                                                                                                                                                                                                                         | CFM/SIDE<br>THROW, FT. | 675 337<br>27-35-48 21-26-35  | 900 450<br>32-38-54 24-29-40  | 1125 562<br>37-45-62 27-32-46 | 1350 675<br>38-48-66 29-35-51 | 1575 787<br>42-51-70 30-37-54  | 1800 900<br>46-56-75 33-40-58  | 2025 1012<br>50-59-80 35-45-61 |
|                                      |  2A<br> 2B                                                                                                                                                                               | CFM/SIDE<br>THROW, FT. | 675<br>27-35-48               | 900<br>32-38-54               | 1125<br>37-45-62              | 1350<br>38-48-66              | 1575<br>42-51-70               | 1800<br>46-56-75               | 2025<br>50-59-80               |
|                                      |  2C  2D<br> 2E  2F | CFM/SIDE<br>THROW, FT. | 1010 337<br>32-40-56 21-26-35 | 1350 450<br>37-46-64 24-29-40 | 1688 562<br>42-53-72 27-32-46 | 2025 675<br>46-56-78 29-35-51 | 2363 787<br>50-61-83 30-37-54  | 2700 900<br>53-64-91 33-40-58  | 3038 1012<br>56-69-96 35-45-61 |
|                                      |  1A<br> 1B                                                                                                                                                                               | CFM/SIDE<br>THROW, FT. | 1350<br>35-40-59              | 1800<br>38-48-67              | 2250<br>45-54-77              | 2700<br>48-58-82              | 3150<br>51-62-90               | 3600<br>54-67-93               | 4050<br>59-70-101              |
|                                      | RETURN FACTORS —SP=2.1 TP<br>NC + 7                                                                                                                                                                                                                                                                                                                            | CFM<br>NC              | 1050<br>15                    | 1400<br>22                    | 1750<br>28                    | 2100<br>33                    | 2450<br>37                     | 2800<br>41                     | 3150<br>44                     |
|                                      |  4B  4C                                                                                                                                                                                  | CFM/SIDE<br>THROW, FT. | 295 230<br>20-25-34 17-20-29  | 394 306<br>24-29-39 19-24-32  | 493 382<br>27-32-44 20-27-37  | 590 460<br>29-37-49 22-29-39  | 690 535<br>31-37-53 24-31-42   | 788 612<br>32-41-56 25-32-44   | 887 688<br>37-42-59 27-37-49   |
|                                      |  3A1                                                                                                                                                                                                                                                                        | CFM/SIDE<br>THROW, FT. | 410 230<br>25-31-42 17-20-29  | 547 306<br>29-37-51 19-24-32  | 684 382<br>32-41-58 20-27-37  | 820 460<br>37-44-61 22-29-39  | 957 535<br>37-48-66 24-31-42   | 1094 612<br>41-51-71 25-32-44  | 1231 688<br>42-54-75 27-37-49  |
|                                      |  3A2                                                                                                                                                                                                                                                                        | CFM/SIDE<br>THROW, FT. | 375 300<br>25-31-42 19-22-31  | 500 400<br>29-37-51 22-25-37  | 625 500<br>32-41-58 25-29-41  | 750 600<br>37-44-61 27-31-44  | 875 700<br>37-48-66 29-32-48   | 1000 800<br>41-51-71 31-37-51  | 1125 900<br>42-54-75 32-37-54  |
| 24<br>x<br>21<br><br>3.5<br>SQ. FT.  |  2A<br> 2B                                                                                                                                                                               | CFM/SIDE<br>THROW, FT. | 525<br>27-32-48               | 700<br>31-37-54               | 875<br>34-42-61               | 1050<br>37-48-66              | 1225<br>39-51-71               | 1400<br>42-54-75               | 1575<br>48-58-80               |
|                                      |  2C  2D<br> 2E  2F | CFM/SIDE<br>THROW, FT. | 591 459<br>29-37-51 24-29-41  | 788 612<br>34-41-58 27-32-48  | 986 764<br>39-48-66 31-37-54  | 1180 920<br>41-51-70 32-39-58 | 1380 1070<br>44-54-75 37-42-61 | 1576 1224<br>49-59-80 37-44-66 | 1774 1376<br>53-63-85 41-49-70 |
|                                      |  1A<br> 1B                                                                                                                                                                               | CFM/SIDE<br>THROW, FT. | 1050<br>34-42-59              | 1400<br>39-49-68              | 1750<br>44-56-76              | 2100<br>49-59-83              | 2450<br>53-65-88               | 2800<br>56-68-87               | 3150<br>59-73-102              |

#### Notes:

- Core style 4E is sized to give equal flow as near as possible in directions A and B.
- For core styles 1A, 1B, 2A and 2B, the "A" direction is shown. Throw correction factor for "B" direction is:  $A \times .82 = B$ .

For performance notes, see page D32.

## Performance Data

### Models 6500 and 6200 • Rectangular Neck

| NOMINAL<br>NECK<br>SIZE               | BLOW<br>PATTERNS                    | NECK<br>VELOCITY<br>TP | 300<br>.033                   | 400<br>.058                   | 500<br>.090                    | 600<br>.130                    | 700<br>.177                    | 800<br>.231                    | 900<br>.293                     |
|---------------------------------------|-------------------------------------|------------------------|-------------------------------|-------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|---------------------------------|
| 30<br>x<br>21<br><br>4.375<br>SQ. FT. | RETURN FACTORS —SP=3.1 TP<br>NC + 8 | CFM<br>NC              | 1310<br>16                    | 1750<br>23                    | 2185<br>29                     | 2625<br>34                     | 3060<br>38                     | 3500<br>41                     | 3935<br>44                      |
|                                       | 4B  4C                              | CFM/SIDE<br>THROW, FT. | 425 230<br>25-31-42 17-20-29  | 569 306<br>24-37-51 19-24-32  | 710 382<br>32-41-58 20-27-37   | 852 460<br>37-44-61 22-29-39   | 995 535<br>37-48-66 24-31-42   | 1138 612<br>41-51-71 25-32-44  | 1279 688<br>42-54-75 27-37-49   |
|                                       | 4E                                  | CFM/SIDE<br>THROW, FT. | 360 295<br>24-29-41           | 480 394<br>27-32-48           | 600 492<br>31-37-54            | 720 591<br>32-39-58            | 840 690<br>37-42-61            | 960 788<br>37-44-66            | 1080 887<br>41-49-70            |
|                                       | 3A1                                 | CFM/SIDE<br>THROW, FT. | 540 230<br>27-32-48 17-20-29  | 722 306<br>31-37-54 19-24-32  | 901 382<br>34-42-61 20-27-37   | 1082 460<br>37-48-66 22-29-39  | 1262 535<br>39-51-71 24-31-42  | 1444 612<br>42-54-75 25-32-44  | 1623 688<br>48-58-80 27-37-49   |
|                                       | 3A2                                 | CFM/SIDE<br>THROW, FT. | 468 422<br>25-31-42 20-25-34  | 625 562<br>29-37-51 24-29-39  | 782 701<br>32-41-58 27-32-44   | 937 844<br>37-44-61 29-37-49   | 1093 983<br>37-48-66 31-37-53  | 1250 1125<br>41-51-71 32-41-56 | 1406 1264<br>42-54-75 37-42-61  |
|                                       | 2A<br>2B                            | CFM/SIDE<br>THROW, FT. | 655<br>29-37-51               | 875<br>34-41-58               | 1092<br>39-48-66               | 1312<br>41-51-70               | 1530<br>44-54-75               | 1750<br>49-59-80               | 1968<br>53-63-85                |
|                                       | 2C  2D<br>2E  2F                    | CFM/SIDE<br>THROW, FT. | 853 457<br>31-37-54 24-29-41  | 1138 612<br>37-42-61 27-32-48 | 1421 764<br>41-49-70 31-37-54  | 1705 920<br>44-54-75 32-39-58  | 1990 1070<br>48-58-80 37-42-61 | 2276 1224<br>51-61-85 37-44-66 | 2559 1376<br>54-65-90 41-49-70  |
|                                       | 1A<br>1B                            | CFM/SIDE<br>THROW, FT. | 1310<br>37-42-63              | 1750<br>41-51-71              | 2185<br>48-58-82               | 2625<br>51-61-87               | 3060<br>54-66-95               | 3500<br>58-71-99               | 3935<br>63-75-107               |
|                                       | RETURN FACTORS —SP=3.4 TP<br>NC + 8 | CFM<br>NC              | 1575<br>16                    | 2100<br>24                    | 2625<br>30                     | 3150<br>34                     | 3675<br>38                     | 4200<br>42                     | 4725<br>45                      |
|                                       | 4B  4C                              | CFM/SIDE<br>THROW, FT. | 558 230<br>27-32-48 17-20-29  | 744 306<br>31-37-54 19-24-32  | 930 382<br>34-42-61 20-27-37   | 1115 460<br>37-48-66 22-29-39  | 1306 535<br>39-51-71 24-31-42  | 1488 612<br>42-54-75 25-32-44  | 1674 688<br>48-58-80 27-37-49   |
| 36<br>x<br>21<br><br>5.25<br>SQ. FT.  | 4E                                  | CFM/SIDE<br>THROW, FT. | 427 360<br>25-31-42 25-31-42  | 568 480<br>29-37-61 29-37-51  | 710 600<br>32-41-58 32-41-58   | 852 720<br>37-44-61 37-44-61   | 945 840<br>37-48-66 37-48-66   | 1135 960<br>41-51-71 41-51-71  | 1280 1080<br>42-54-75 42-54-75  |
|                                       | 3A1                                 | CFM/SIDE<br>THROW, FT. | 672 230<br>29-37-51 17-20-29  | 897 306<br>34-41-58 19-24-32  | 1121 382<br>39-48-66 20-27-37  | 1345 460<br>41-51-70 22-29-39  | 1570 535<br>44-54-75 24-31-42  | 1794 612<br>49-59-80 25-32-44  | 2018 688<br>53-63-85 27-37-49   |
|                                       | 3A2                                 | CFM/SIDE<br>THROW, FT. | 675 450<br>25-31-42 22-27-37  | 900 600<br>29-37-51 25-31-42  | 1125 750<br>32-41-58 29-34-49  | 1350 900<br>37-44-61 31-37-54  | 1575 1050<br>37-48-66 32-39-58 | 1800 1200<br>41-51-71 34-42-61 | 2025 1350<br>42-54-75 37-48-65  |
|                                       | 2A<br>2B                            | CFM/SIDE<br>THROW, FT. | 787<br>31-37-54               | 1050<br>37-42-61              | 1312<br>41-49-70               | 1575<br>44-54-75               | 1837<br>48-58-80               | 2100<br>51-61-85               | 2362<br>54-65-90                |
|                                       | 2C  2D<br>2E  2F                    | CFM/SIDE<br>THROW, FT. | 1115 460<br>34-42-59 24-29-41 | 1488 612<br>39-49-68 27-32-48 | 1861 764<br>44-56-76 31-37-54  | 2230 920<br>49-59-83 32-39-58  | 2605 1070<br>53-65-88 37-42-61 | 2976 1224<br>56-68-97 37-44-66 | 3349 1376<br>59-73-102 41-49-70 |
|                                       | 1A<br>1B                            | CFM/SIDE<br>THROW, FT. | 1575<br>41-51-70              | 2100<br>39-58-80              | 2625<br>54-66-90               | 3150<br>58-70-99               | 3675<br>61-75-105              | 4200<br>66-80-114              | 4725<br>70-85-122               |
|                                       | RETURN FACTORS —SP=3.1 TP<br>NC + 8 | CFM<br>NC              | 1500<br>17                    | 2000<br>25                    | 2500<br>30                     | 3000<br>35                     | 3500<br>39                     | 4000<br>43                     | 4500<br>46                      |
|                                       | 4B  4C                              | CFM/SIDE<br>THROW, FT. | 450 300<br>25-31-42 19-22-31  | 600 400<br>29-37-51 22-25-37  | 750 500<br>32-41-58 25-29-41   | 900 600<br>33-44-61 27-31-44   | 1050 700<br>37-48-66 29-32-48  | 1200 800<br>41-51-71 31-37-51  | 1350 900<br>42-54-75 32-37-54   |
|                                       | 4E                                  | CFM/SIDE<br>THROW, FT. | 375 375<br>25-31-42 25-31-42  | 500 500<br>29-37-51 29-37-51  | 625 625<br>32-41-58 32-41-58   | 750 750<br>33-44-61 37-44-61   | 875 875<br>37-48-66 37-48-66   | 1000 1000<br>41-51-71 41-51-71 | 1125 1125<br>42-54-75 42-54-75  |
|                                       | 3A1                                 | CFM/SIDE<br>THROW, FT. | 600 300<br>29-37-51 19-22-31  | 800 400<br>34-41-58 22-25-37  | 1000 500<br>39-48-66 25-29-41  | 1200 600<br>41-51-70 27-31-44  | 1400 700<br>44-54-75 29-32-48  | 1600 800<br>49-59-80 31-37-51  | 1800 900<br>53-63-85 32-37-54   |
| 30<br>x<br>24<br><br>5.0<br>SQ. FT.   | 3A2                                 | CFM/SIDE<br>THROW, FT. | 515 470<br>31-37-54 25-31-42  | 687 625<br>37-42-61 29-37-51  | 859 782<br>41-49-70 32-41-58   | 1031 937<br>44-54-75 33-44-61  | 1203 1093<br>48-58-80 37-48-66 | 1375 1250<br>51-61-85 41-51-71 | 1548 1406<br>54-65-90 42-54-75  |
|                                       | 2A<br>2B                            | CFM/SIDE<br>THROW, FT. | 750<br>32-41-56               | 1000<br>37-48-65              | 1250<br>42-54-73               | 1500<br>48-58-78               | 1750<br>51-61-85               | 2000<br>54-66-90               | 2250<br>58-70-97                |
|                                       | 2C  2D<br>2E  2F                    | CFM/SIDE<br>THROW, FT. | 900 600<br>37-42-63 29-37-51  | 1200 800<br>41-51-71 34-41-58 | 1500 1000<br>48-58-82 39-48-66 | 1800 1200<br>51-61-87 41-51-70 | 2100 1400<br>54-66-85 44-54-75 | 2400 1600<br>58-71-99 49-59-80 | 2700 1800<br>63-75-107 53-63-85 |
|                                       | 1A<br>1B                            | CFM/SIDE<br>THROW, FT. | 1500<br>38-47-67              | 2000<br>45-54-76              | 2500<br>48-61-85               | 3000<br>54-65-95               | 3500<br>58-72-99               | 4000<br>62-76-106              | 4500<br>66-79-113               |

#### Notes:

1. Core style 4E is sized to give equal flow as near as possible in directions A and B.
2. For core styles 1A, 1B, 2A and 2B, the "A" direction is shown. Throw correction factor for "B" direction is:  $A \times .82 = B$ .

For performance notes, see page D32.

D

CEILING DIFFUSERS

## Performance Data

### Models 6500 and 6200 • Rectangular Neck

| NOMINAL<br>NECK<br>SIZE             | BLOW<br>PATTERNS                       | NECK<br>VELOCITY<br>TP | 300<br>.033                   | 400<br>.058                    | 500<br>.090                    | 600<br>.130                    | 700<br>.177                    | 800<br>.231                    | 900<br>.293                     |
|-------------------------------------|----------------------------------------|------------------------|-------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|---------------------------------|
| 36<br>x<br>24<br><br>6.0<br>SQ. FT. | RETURN<br>FACTORS —SP=3.3 TP<br>NC + 8 | CFM<br>NC              | 1800<br>18                    | 2400<br>25                     | 3000<br>31                     | 3600<br>36                     | 4200<br>40                     | 4800<br>43                     | 5400<br>46                      |
|                                     | 4B  4C                                 | CFM/SIDE<br>THROW, FT. | 600 300<br>29-37-51 19-22-31  | 800 400<br>34-41-58 22-25-37   | 1000 500<br>39-48-66 25-29-41  | 1200 600<br>41-51-70 27-31-44  | 1400 700<br>44-54-75 29-32-48  | 1600 800<br>49-59-80 31-37-51  | 1800 900<br>53-63-85 32-37-54   |
|                                     | 4E                                     | CFM/SIDE<br>THROW, FT. | 450 450<br>25-31-42 24-31-42  | 600 600<br>29-37-51 29-37-51   | 750 750<br>32-41-58 32-41-58   | 900 900<br>35-44-61 35-44-61   | 1050 1050<br>37-48-66 37-48-66 | 1200 1200<br>41-51-71 41-51-71 | 1350 1350<br>42-54-75 42-54-75  |
|                                     | 3A1                                    | CFM/SIDE<br>THROW, FT. | 750 300<br>31-37-54 19-22-31  | 1000 400<br>37-42-61 22-25-37  | 1250 500<br>41-49-70 25-29-41  | 1500 600<br>44-54-75 27-31-44  | 1750 700<br>48-58-80 29-32-48  | 2000 800<br>51-61-85 31-37-51  | 2250 900<br>54-65-90 32-37-54   |
|                                     | 3A2                                    | CFM/SIDE<br>THROW, FT. | 676 562<br>27-32-48 24-29-41  | 900 750<br>34-37-54 27-32-48   | 1125 937<br>34-42-61 31-37-54  | 1350 1125<br>37-48-66 32-39-58 | 1575 1312<br>39-51-71 35-42-61 | 1800 1500<br>42-54-75 37-44-66 | 2025 1687<br>48-58-80 41-49-70  |
|                                     | 2A<br>2B                               | CFM/SIDE<br>THROW, FT. | 900<br>32-41-56               | 1200<br>37-48-65               | 1500<br>42-54-73               | 1800<br>48-58-78               | 2100<br>51-61-85               | 2400<br>54-66-90               | 2700<br>58-70-97                |
|                                     | 2C  2E                                 | CFM/SIDE<br>THROW, FT. | 1200 600<br>37-42-63 25-31-42 | 1600 800<br>41-51-71 29-37-51  | 2000 1000<br>48-58-82 32-41-58 | 2400 1200<br>51-61-87 35-44-61 | 2800 1400<br>54-66-95 37-48-66 | 3200 1600<br>58-71-99 41-51-71 | 3600 1800<br>63-75-107 42-54-75 |
|                                     | 1A<br>1B                               | CFM/SIDE<br>THROW, FT. | 1800<br>41-51-70              | 2400<br>48-58-80               | 3000<br>54-66-90               | 3600<br>58-70-99               | 4200<br>61-75-105              | 4800<br>66-80-114              | 5400<br>70-85-122               |
| 36<br>x<br>30<br><br>7.5<br>SQ. FT. | RETURN<br>FACTORS —SP=3.4 TP<br>NC + 8 | CFM<br>NC              | 2250<br>19                    | 3000<br>26                     | 3750<br>32                     | 4500<br>37                     | 5250<br>41                     | 6000<br>44                     | 6750<br>47                      |
|                                     | 4B  4C                                 | CFM/SIDE<br>THROW, FT. | 657 468<br>29-37-51 20-25-34  | 875 625<br>34-41-58 24-29-39   | 1093 782<br>39-48-66 27-32-44  | 1313 937<br>41-51-70 29-37-49  | 1532 1093<br>44-54-75 31-37-53 | 1750 1250<br>49-59-80 32-41-56 | 1969 1406<br>53-63-85 37-42-59  |
|                                     | 3A1                                    | CFM/SIDE<br>THROW, FT. | 890 468<br>32-41-56 20-25-34  | 1187 625<br>37-48-65 24-29-39  | 1484 782<br>42-54-73 27-32-44  | 1781 937<br>48-58-78 29-37-49  | 2078 1093<br>51-61-85 31-37-53 | 2375 1250<br>54-66-90 32-41-56 | 2672 1406<br>58-70-97 37-42-59  |
|                                     | 3A2                                    | CFM/SIDE<br>THROW, FT. | 787 675<br>31-37-54 22-27-37  | 1050 900<br>37-42-61 25-31-42  | 1312 1125<br>41-49-70 29-34-49 | 1575 1350<br>44-54-75 31-37-54 | 1837 1575<br>48-58-80 32-39-58 | 2100 1800<br>51-61-85 37-42-61 | 2362 2025<br>54-65-90 37-48-65  |
|                                     | 2A<br>2B                               | CFM/SIDE<br>THROW, FT. | 1125<br>34-42-59              | 1500<br>39-49-68               | 1875<br>44-56-76               | 2250<br>49-59-83               | 2625<br>53-65-88               | 3000<br>56-68-97               | 3375<br>59-73-102               |
|                                     | 2C  2E                                 | CFM/SIDE<br>THROW, FT. | 1312 938<br>37-42-63 29-37-51 | 1750 1250<br>41-51-71 34-41-58 | 2188 1562<br>48-58-82 39-48-66 | 2625 1875<br>51-61-87 41-51-70 | 3063 2187<br>54-66-95 44-54-75 | 3500 2500<br>58-71-99 49-59-80 | 3938 2812<br>63-75-107 53-63-85 |
|                                     | 1A<br>1B                               | CFM/SIDE<br>THROW, FT. | 2250<br>48-60-82              | 3000<br>56-68-94               | 3750<br>64-78-106              | 4500<br>68-82-116              | 5250<br>72-88-124              | 6000<br>78-94-134              | 6750<br>82-100-144              |

#### Notes:

- Core style 4E is sized to give equal flow as near as possible in directions A and B.
- For core styles 1A, 1B, 2A and 2B, the "A" direction is shown. Throw correction factor for "B" direction is: A x .82 = B.

**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<sup>-12</sup> watts.

**Neck Velocity** – feet per minute

#### Performance Notes:

1. Throw values are given for terminal velocities of 150, 100 and 50 fpm under isothermal conditions. Data applies to ceiling mounted units when the maximum coanda effect applies. When no ceiling is present (exposed duct), throws are reduced by approximately 25%.

2. Sound levels in performance tables are for steel construction – **Model 6500**. Apply the following corrections for aluminum construction – **Model 6200**.

TP = Listed value x 1.25.

NC = Listed value + 4.

3. Performance data as tabulated is for supply air conditions. Correction factors for return air application - see next page.

4. Correction factors for adjustable models - see next page.

5. Correction factors for round inlets - see next page.

6. Data derived from tests conducted in accordance with ANSI/ASHRAE Standard 70 – 1991.

## Performance Data Corrections

### Model Series 6500 and 6200

#### CORRECTION FACTORS FOR RETURN INLET

If the unit is used as a return inlet, the performance data is obtained by applying the return corrections, as follows:

- Add the NC correction at the left side of the table to the NC value listed in the performance table.
- Multiply the listed SP factor at the left side of the table by the total pressure (TP) listed at the top of the table.

#### CORRECTION FACTORS FOR MODELS 6550 AND 6250 (ADJUSTABLE PATTERN CONTROLLERS) – TABLE 2

Refer to the performance data for the **Models 6500 and 6200**. Apply the corrections from Table 2 to the data for square, 4-way core styles, as follows:

- NC = listed + correction
- Total Pressure = listed x factor
- Horizontal Throw = listed
- Vertical Throw = listed x factor

Apply the throw factor to the 50 fpm terminal velocity throw only.

#### Example:

18" x 18", **Model 6500**, 1350 cfm, 20°F temperature difference heating, vertical projection, (Page D18).

- NC = 31 + 6 = 37
- TP = .13 x 2.1 = .273
- Throw = 36 x .9 = 32.4 feet @ 50 fpm terminal velocity.

#### CORRECTION FACTORS WITH SQUARE TO ROUND INLET ADAPTOR – TABLE 3

- Add the NC correction factor from Table 3 and the NC value listed in the performance tables.
- Multiply the correction factor from Table 3 by the listed total pressure in the performance tables.
- Multiply the correction factor from Table 3 by the listed throws in the performance tables.

#### Example:

12" x 12" unit with 10" round adaptor handling 500 cfm supply air. (Page D18).

- NC = 23 + 7 = 30
- Total Pressure = .09 x 1.65 = 0.149
- Throw = 21 x 1.15 = 24.15 feet @ 50 fpm terminal velocity.

#### Example:

12" x 12" unit handling 600 cfm of return air. (Page D18).

- Return NC = 28 + 4 = 32.
- Return negative SP = 1.3 x (– .13) = – .169.

**TABLE 2 Correction Factors 6550/6250 Adjustable**

| NECK SIZE      | NC (add) |   | TOTAL PRESSURE (multiply) |     | VERTICAL THROW (multiply) |  |             |           |
|----------------|----------|---|---------------------------|-----|---------------------------|--|-------------|-----------|
|                | H        | V | H                         | V   | COOLING, ΔT               |  | HEATING, ΔT |           |
|                |          |   |                           |     | 20°F                      |  | 0°F         | 20°F 40°F |
| <b>6 x 6</b>   | 2        | 6 | 1.2                       | 1.5 | 1.3                       |  | 1.1         | 0.8 0.6   |
| <b>9 x 9</b>   | 2        | 6 | 1.4                       | 2.1 | 1.5                       |  | 1.2         | 0.9 0.6   |
| <b>12 x 12</b> | 2        | 6 | 1.4                       | 2.1 | 1.6                       |  | 1.3         | 1.0 0.6   |
| <b>15 x 15</b> | 2        | 6 | 1.4                       | 2.1 | 1.7                       |  | 1.3         | 1.0 0.6   |
| <b>18 x 18</b> | 2        | 6 | 1.4                       | 2.1 | 1.7                       |  | 1.3         | 0.9 0.6   |
| <b>21 x 21</b> | 2        | 6 | 1.4                       | 2.1 | 1.7                       |  | 1.3         | 0.8 0.5   |
| <b>24 x 24</b> | 2        | 6 | 1.6                       | 2.2 | 1.5                       |  | 1.1         | 0.7 0.3   |

**TABLE 3 Correction Factors for SR Adaptors**

| SQUARE INLET   | ROUND INLET | NC (add) | TP (multiply) | THROW (multiply) |      |      |
|----------------|-------------|----------|---------------|------------------|------|------|
|                |             |          |               | 150              | 100  | 50   |
| <b>6 x 6</b>   | <b>5</b>    | 7        | 1.65          | 1.10             | 1.10 | 1.15 |
| <b>9 x 9</b>   | <b>6</b>    | 17       | 3.50          | 1.15             | 1.15 | 1.20 |
| <b>9 x 9</b>   | <b>8</b>    | 4        | 1.40          | 1.10             | 1.10 | 1.10 |
| <b>12 x 12</b> | <b>8</b>    | 17       | 3.50          | 1.15             | 1.15 | 1.20 |
| <b>12 x 12</b> | <b>10</b>   | 7        | 1.65          | 1.10             | 1.10 | 1.15 |
| <b>15 x 15</b> | <b>10</b>   | 17       | 3.50          | 1.15             | 1.15 | 1.20 |
| <b>15 x 15</b> | <b>12</b>   | 9        | 1.90          | 1.10             | 1.10 | 1.15 |
| <b>15 x 15</b> | <b>14</b>   | 3        | 1.25          | 1.05             | 1.05 | 1.10 |
| <b>18 x 18</b> | <b>12</b>   | 17       | 3.50          | 1.15             | 1.15 | 1.20 |
| <b>18 x 18</b> | <b>14</b>   | 10       | 2.00          | 1.10             | 1.10 | 1.15 |
| <b>18 x 18</b> | <b>16</b>   | 5        | 1.45          | 1.10             | 1.10 | 1.10 |
| <b>21 x 21</b> | <b>14</b>   | 17       | 3.70          | 1.15             | 1.15 | 1.20 |
| <b>21 x 21</b> | <b>16</b>   | 11       | 2.25          | 1.10             | 1.10 | 1.15 |
| <b>21 x 21</b> | <b>18</b>   | 6        | 1.60          | 1.10             | 1.10 | 1.10 |
| <b>21 x 21</b> | <b>20</b>   | 3        | 1.20          | 1.05             | 1.05 | 1.10 |
| <b>24 x 24</b> | <b>16</b>   | 17       | 3.50          | 1.15             | 1.15 | 1.20 |
| <b>24 x 24</b> | <b>18</b>   | 12       | 2.35          | 1.10             | 1.10 | 1.15 |
| <b>24 x 24</b> | <b>20</b>   | 7        | 1.65          | 1.10             | 1.10 | 1.15 |
| <b>24 x 24</b> | <b>22</b>   | 4        | 1.33          | 1.05             | 1.05 | 1.10 |

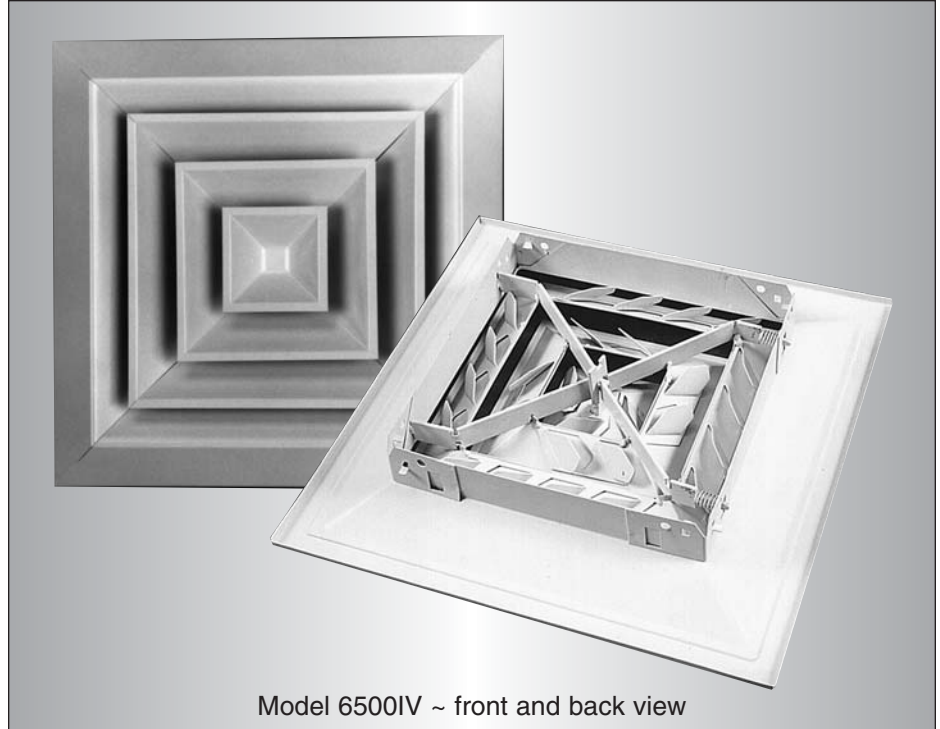
## SQUARE AND RECTANGULAR PATTERN CEILING DIFFUSERS

- INDUCTION VANES
- LOUVERED FACE
- HIGH CAPACITY
- SQUARE, RECTANGULAR OR ROUND NECKS

**Steel Model:**  
**6500IV Fixed Pattern**

**Aluminum Model:**  
**6200IV Fixed Pattern**

- Suffix '-O' adds a steel opposed blade damper
- Suffix '-OA' adds an aluminum opposed blade damper (available on aluminum models only)



Model 6500IV ~ front and back view

The **Nailor Model Series 6500IV and 6200IV Pattern Ceiling Diffusers** have been specially designed to provide a high capacity, high induction, louvered face directional diffuser that can supply large volumes of air at relatively low sound levels and pressure drops. An engineered blade design with a 1/4" (6) horizontal lip on all angular discharge louvers creates a stable horizontal air pattern that is tight to the ceiling.

Induction vanes mounted behind the louvers create counter-flowing jets of primary air that promote rapid mixing of the cool primary air with the warm room air. This high induction characteristic is ideal for VAV applications involving high cooling loads as it quickly equalizes the air temperature, reduces the throw and minimizes the potential for uncomfortable drafts.

Available in a wide variety of core styles and neck sizes, a combination can be selected to suit a specified air pattern and deliver the desired volume of air to suit any particular requirement. Many frame types are also available to suit almost any mounting condition including surface mount (flat, beveled or deep drop face) and T-Bar panel types (Standard 1" (25), Fineline®, Spline, Tegular or Metal Pan Snap-in). These models therefore offer a great degree of design flexibility.

### FEATURES:

- Spring loaded core. Removable without the use of tools.
- High neck collars for solid connection.
- Secure core attachment.
- A wide variety of frame styles to suit most ceiling applications.
- Optional extended panels to suit modular ceiling systems.
- Engineered air diffusion patterns for 1, 2, 3 or 4-way blow in a wide selection of square and rectangular neck sizes (see page D37).
- Clean lines with no unsightly visible screws.
- Square-to-round transition adaptors are available (SR option).
- Optional opposed blade damper with screwdriver slot operator.

**Material:** **6500IV Series** – Corrosion-resistant steel. **6200IV Series** – Heavy-gauge aluminum extrusions.

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

### AVAILABLE SIZES:

Unit Size is determined by duct dimensions. Diffuser necks are undersized to suit ductwork.

Duct Sizes are available in 3" (76) increments.

Minimum size:

6" x 6" (152 x 152) square neck. 9" x 6" (229 x 152) rectangular neck (most core styles).

Maximum size:

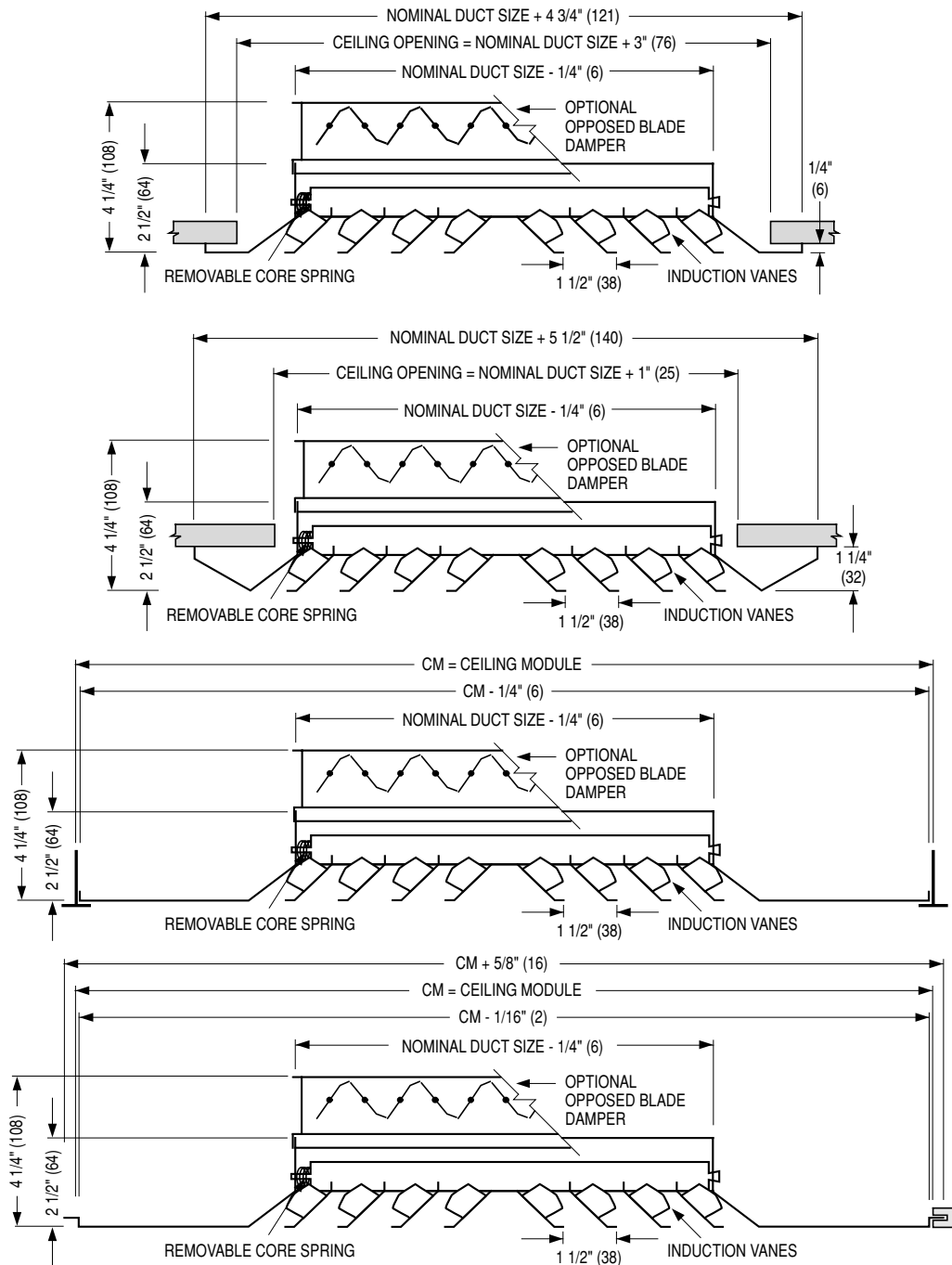
Types S, B and D: 36" x 36" (914 x 914).

Types L, SP, TL, M and F: see page D35.



## Dimensional Data and Frame Types

### Model Series 6500IV and 6200IV



SPLINE TYPE DIFFUSER FOR ONE-DIRECTIONAL EXPOSED T-BAR LAY-IN GRID OR FOR CONCEALED T-BAR GRID.  
(SPLINES ON TWO OPPOSITE SIDES. STEEL LIFT BRACKETS ON THE OTHER TWO SIDES).

### Extended Panel Diffusers Frame Types L, SP, TL, M and F

If the ceiling module is more than 3" (76) larger than the neck size of the diffuser in either or both dimensions, a steel module-sized extended panel will be added. Aluminum is available as an option.

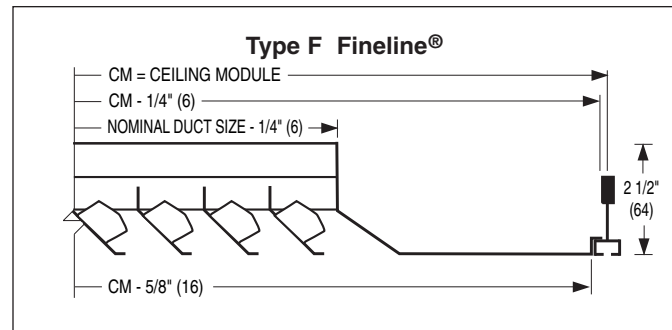
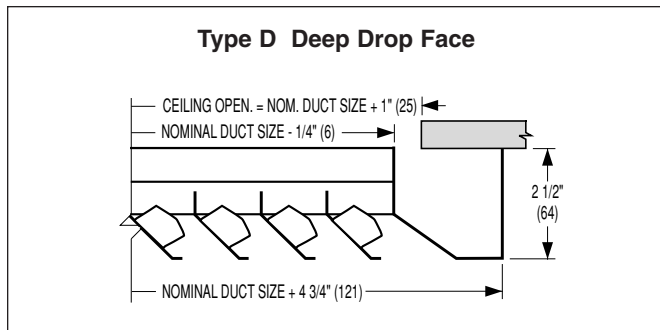
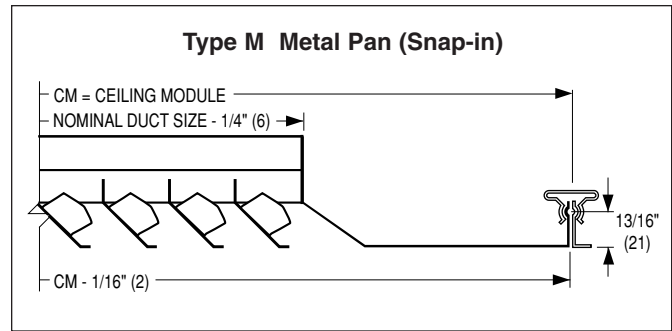
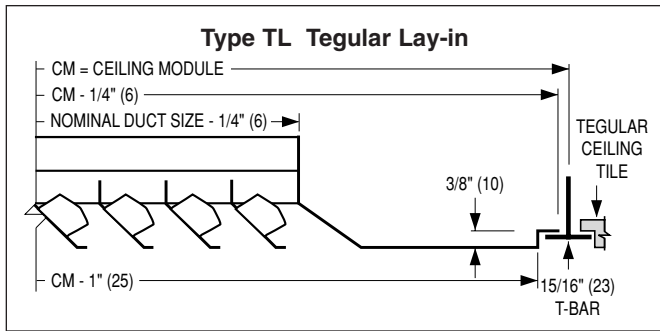
See the table at right for the maximum duct size for each module size.

**TABLE 1**

| Ceiling Module Size         | Maximum Duct Size Frames L, SP and M | Maximum Duct Size Frames TL and F |
|-----------------------------|--------------------------------------|-----------------------------------|
| <b>12 x 12 (305 x 305)</b>  | 9 x 9 (229 x 229)                    | 6 x 6 (152 x 152)                 |
| <b>20 x 20 (508 x 508)</b>  | 15 x 15 (381 x 381)                  | —                                 |
| <b>24 x 12 (610 x 305)</b>  | 21 x 9 (533 x 229)                   | 18 x 6 (457 x 152)                |
| <b>24 x 24 (610 x 610)</b>  | 21 x 21 (533 x 533)                  | 18 x 18 (457 x 457)               |
| <b>48 x 24 (1219 x 610)</b> | 45 x 21 (1143 x 533)                 | —                                 |

Dimensions are in inches (mm).

## Dimensional Data and Frame Types Model Series 6500IV and 6200IV

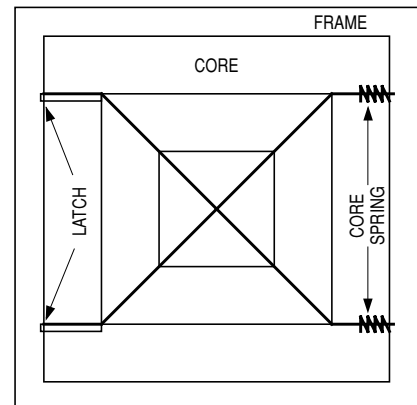


### REMOVABLE CORE

- Standard feature of **Models 6500IV and 6200IV**.
- Engineered design allows easy removal without the need for tools, yet remains securely in place.

### HOW TO REMOVE "REMOVABLE" CORE

To remove diffuser core, lift the complete core assembly to disengage the latch, push the core against the core spring, pull down the core slightly and remove. Reverse procedure to re-install.



## Standard Core Styles

Model Series 6500IV and 6200IV

Contact factory for special core configurations.

### SIZES AVAILABLE

|                     | SQUARE       | RECTANGULAR                                                                                                                                   | CORE                               | MINIMUM                                                                                                                                        | MAXIMUM                                                                                                                                                  |
|---------------------|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|
| <br>1-WAY           | <br>1S       | <br>1A<br>1B                                                                                                                                  | 1S<br>1A<br>1B                     | 6 x 6<br>(152 x 152)<br>9 x 6<br>(229 x 152)<br>9 x 6<br>(229 x 152)                                                                           | 36 x 36<br>(914 x 914)<br>36 x 33<br>(914 x 838)<br>36 x 33<br>(914 x 838)                                                                               |
| <br>2-WAY           | <br>2S       | <br>2A<br>2B                                                                                                                                  | 2S<br>2A<br>2B                     | 6 x 6<br>(152 x 152)<br>9 x 6<br>(229 x 152)<br>9 x 6<br>(229 x 152)                                                                           | 36 x 36<br>(914 x 914)<br>36 x 33<br>(914 x 838)<br>36 x 33<br>(914 x 838)                                                                               |
| <br>2-WAY<br>CORNER | <br>2G       | <br>2E<br>2F                                                                                                                                  | 2G<br>2E<br>2F                     | 6 x 6<br>(152 x 152)<br>9 x 6<br>(229 x 152)<br>9 x 6<br>(229 x 152)                                                                           | 36 x 36<br>(914 x 914)<br>36 x 33<br>(914 x 838)<br>36 x 33<br>(914 x 838)                                                                               |
| <br>3-WAY           | <br>3A<br>3H | <br>3A1<br>(A is greater than B)<br>3A2<br>(B is less than A but greater than A/2)<br>3B<br>(B is equal to A/2)<br>3E<br>(B is less than A/2) | 3A<br>3A1<br>3A2<br>3B<br>3E<br>3H | 6 x 6<br>(152 x 152)<br>9 x 6<br>(229 x 152)<br>9 x 6<br>(229 x 152)<br>12 x 6<br>(305 x 152)<br>15 x 6<br>(381 x 152)<br>6 x 6<br>(152 x 152) | 36 x 36<br>(914 x 914)<br>36 x 33<br>(914 x 838)<br>36 x 33<br>(914 x 838)<br>36 x 18<br>(914 x 457)<br>36 x 15<br>(914 x 381)<br>36 x 36<br>(914 x 914) |
| <br>4-WAY           | <br>4A       | <br>4B<br>4C                                                                                                                                  | 4A<br>4B<br>4C                     | 6 x 6<br>(152 x 152)<br>9 x 6<br>(229 x 152)<br>12 x 6<br>(305 x 152)                                                                          | 36 x 36<br>(914 x 914)<br>36 x 33<br>(914 x 838)<br>36 x 30<br>(914 x 762)                                                                               |

Dimensions are in inches (mm).

### Notes:

1. Duct sizes are available in 3" (76) increments.
2. Patterns are shown in plan view (looking down into inlet).

D

CEILING DIFFUSERS

## HOW TO SPECIFY OR TO ORDER

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

### Induction Vane Pattern Ceiling Diffusers – Model Series 6500IV and 6200IV

**6500IV - O - 9 x 9 - 24 x 24 - L - AW - 4A - SR08**

#### MODEL

- Steel Fixed Pattern 6500IV
- Aluminum Fixed Pattern 6200IV

#### DAMPER

- No Damper (default) —
- Opposed Blade (steel) O
- Opposed Blade (alum.) OA

#### NECK SIZE (W x H)

#### PANEL SIZE (TYPES L, SP, M, TL AND F ONLY)

| Imperial (inches) | Metric (mm) |
|-------------------|-------------|
| - 12 x 12         | 300 x 300   |
| - 20 x 20         | 500 x 500   |
| - 24 x 12         | 600 x 300   |
| - 24 x 24         | 600 x 600   |
| - 48 x 24         | 1200 x 600  |

#### FRAME TYPE

- Surface Mount Flat S
- T-Bar Lay-In L
- Spline SP
- Surface Mount Beveled B
- Metal Pan M
- Tegular (Drop Face) TL
- Finline® F
- Surface Mount (Deep Drop) D

#### ACCESSORIES

- None (default) —
- Square to Round Transition Collar (04 thru 20 specify) SR
- Earthquake Tabs EQT
- Alum. extended panel (6200IV model only). PLA

#### AIR BALANCING DEVICES

##### Rectangular Neck:

- Equalizing Grid (long) EGL
- Equalizing Grid (short) EGS
- Damper/Equal. Grid (long) DEGL
- Damper/Equal. Grid (short) DEGS

##### Round Neck:

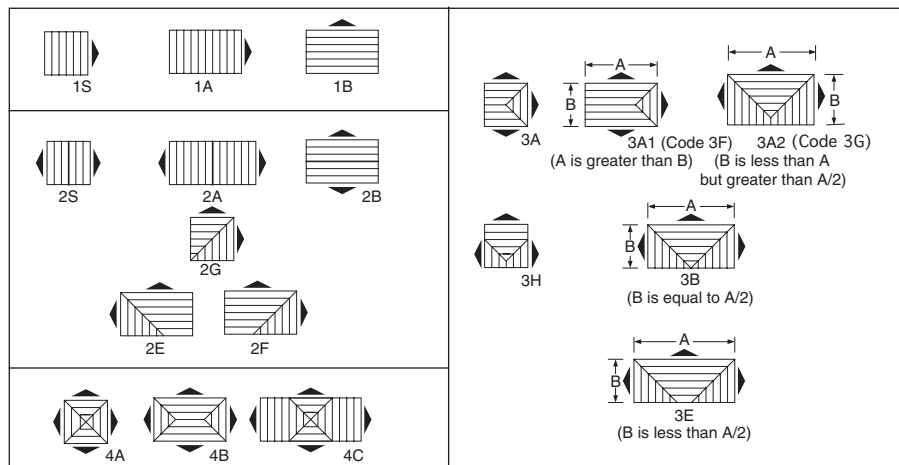
- Radial Sliding Blade Damper 4250
- Radial Opposed Blade Damper 4275
- Butterfly Damper 4675
- Equalizing Grid EGR
- Damper/Equalizing Grid DEGR

#### CORE STYLE (See Below).

#### FINISH

- Appliance White (default) AW
- Aluminum AL
- Special Custom Color SP

#### CORE STYLE CHART



#### Note:

1. Consult text as to limitations of panel, neck size and core style combinations.

#### SUGGESTED SPECIFICATION:

Furnish and install **Nailor Model** (select one) **6500IV** (steel) or **6200IV** (aluminum) **Induction Vane Pattern Ceiling Diffusers** of the sizes and capacities as shown on the plans and air distribution schedules. The core assembly shall have a fixed pattern for horizontal throw and shall include induction vanes for rapid mixing of supply air with room air. The entire core assembly shall be removable without the use of tools. The directional pattern shall be supplied as a 4, 3, 2, or 1-way discharge pattern as specified. The core is to be interchangeable with all other frame styles of equal size. The square or rectangular duct connection collar shall be an integral part of the frame assembly. The finish shall 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) shall be provided with all units.

The manufacturer shall provide published performance data for the diffuser, which shall be tested in accordance with ANSI/ASHRAE Standard 70 – 1991.

## Performance Data

### Models 6500IV and 6200IV • Square Neck • Induction Vanes

| NOMINAL<br>NECK<br>SIZE              | BLOW<br>PATTERNS  |                      | NECK<br>VELOCITY<br>TP | 300<br>.035     |                 | 400<br>.062     |                 | 500<br>.097      |                 | 600<br>.140      |                 | 700<br>.191      |                 | 800<br>.249      |                 | 900<br>.316      |                 |
|--------------------------------------|-------------------|----------------------|------------------------|-----------------|-----------------|-----------------|-----------------|------------------|-----------------|------------------|-----------------|------------------|-----------------|------------------|-----------------|------------------|-----------------|
|                                      | RETURN<br>FACTORS | —SP=1.1 TP<br>NC + 1 | CFM<br>NC              | 75<br>—         |                 | 100<br>14       |                 | 125<br>21        |                 | 150<br>26        |                 | 175<br>30        |                 | 200<br>35        |                 | 225<br>39        |                 |
|                                      |                   |                      |                        | A               | B               | A               | B               | A                | B               | A                | B               | A                | B               | A                | B               | A                | B               |
| 6<br>x<br>6<br><br>.25<br>SQ. FT.    |                   | 4A                   | CFM/SIDE<br>THROW, FT. | 19<br>3-4-6     |                 | 25<br>3-5-8     |                 | 31<br>5-6-8      |                 | 37<br>5-6-9      |                 | 44<br>6-7-10     |                 | 50<br>6-7-10     |                 | 56<br>7-8-10     |                 |
|                                      |                   | 3A                   | CFM/SIDE<br>THROW, FT. | 19<br>3-4-6     | 28<br>4-6-9     | 25<br>3-5-8     | 38<br>5-7-10    | 31<br>5-6-8      | 47<br>6-8-11    | 37<br>5-6-9      | 56<br>6-9-12    | 44<br>6-7-10     | 66<br>7-10-13   | 50<br>6-7-10     | 75<br>7-10-14   | 56<br>7-8-10     | 85<br>8-10-14   |
|                                      | 2S                | 2G                   | CFM/SIDE<br>THROW, FT. | 37<br>6-7-10    |                 | 50<br>7-8-11    |                 | 62<br>8-9-13     |                 | 75<br>9-10-14    |                 | 88<br>10-10-14   |                 | 100<br>10-10-15  |                 | 113<br>10-11-16  |                 |
|                                      |                   | 1S                   | CFM/SIDE<br>THROW, FT. | 75<br>7-9-12    |                 | 100<br>8-10-14  |                 | 125<br>9-11-15   |                 | 150<br>10-12-18  |                 | 175<br>10-13-18  |                 | 200<br>11-14-19  |                 | 225<br>12-14-20  |                 |
|                                      |                   |                      |                        |                 |                 |                 |                 |                  |                 |                  |                 |                  |                 |                  |                 |                  |                 |
| 9<br>x<br>9<br><br>.56<br>SQ. FT.    |                   | —SP=1.2 TP<br>NC + 2 | CFM<br>NC              | 170<br>—        |                 | 225<br>18       |                 | 280<br>24        |                 | 340<br>30        |                 | 395<br>35        |                 | 450<br>39        |                 | 505<br>42        |                 |
|                                      |                   |                      |                        | A               | B               | A               | B               | A                | B               | A                | B               | A                | B               | A                | B               | A                | B               |
|                                      |                   | 4A                   | CFM/SIDE<br>THROW, FT. | 42<br>5-6-10    |                 | 56<br>6-8-11    |                 | 70<br>8-9-12     |                 | 84<br>8-10-13    |                 | 98<br>9-10-14    |                 | 112<br>9-11-15   |                 | 126<br>10-12-16  |                 |
|                                      |                   | 3A                   | CFM/SIDE<br>THROW, FT. | 42<br>5-6-10    | 63<br>7-9-11    | 56<br>6-8-11    | 85<br>8-10-14   | 70<br>8-9-12     | 106<br>9-10-15  | 84<br>8-10-13    | 127<br>10-11-16 | 98<br>9-10-14    | 148<br>10-12-17 | 112<br>9-11-15   | 169<br>10-13-18 | 126<br>10-12-16  | 190<br>11-14-19 |
|                                      | 2S                | 2G                   | CFM/SIDE<br>THROW, FT. | 84<br>7-8-12    |                 | 112<br>9-10-14  |                 | 141<br>10-12-16  |                 | 169<br>10-13-18  |                 | 197<br>11-14-18  |                 | 225<br>12-14-20  |                 | 253<br>13-15-22  |                 |
|                                      |                   | 1S                   | CFM/SIDE<br>THROW, FT. | 169<br>10-12-16 |                 | 225<br>11-14-18 |                 | 282<br>13-15-21  |                 | 338<br>14-18-23  |                 | 394<br>14-18-25  |                 | 450<br>15-19-26  |                 | 507<br>18-20-28  |                 |
|                                      |                   |                      |                        |                 |                 |                 |                 |                  |                 |                  |                 |                  |                 |                  |                 |                  |                 |
| 12<br>x<br>12<br><br>1.0<br>SQ. FT.  |                   | —SP=1.3 TP<br>NC + 4 | CFM<br>NC              | 300<br>14       |                 | 400<br>21       |                 | 500<br>27        |                 | 600<br>32        |                 | 700<br>37        |                 | 800<br>40        |                 | 900<br>43        |                 |
|                                      |                   |                      |                        | A               | B               | A               | B               | A                | B               | A                | B               | A                | B               | A                | B               | A                | B               |
|                                      |                   | 4A                   | CFM/SIDE<br>THROW, FT. | 75<br>6-10-12   |                 | 100<br>9-11-14  |                 | 125<br>10-12-17  |                 | 150<br>11-14-18  |                 | 175<br>11-14-19  |                 | 200<br>12-16-20  |                 | 225<br>14-17-22  |                 |
|                                      |                   | 3A                   | CFM/SIDE<br>THROW, FT. | 75<br>6-10-12   | 112<br>9-11-15  | 100<br>9-11-14  | 150<br>11-13-17 | 125<br>10-12-17  | 187<br>11-14-19 | 150<br>11-14-18  | 225<br>12-15-21 | 175<br>11-14-19  | 262<br>13-16-22 | 200<br>12-16-20  | 300<br>14-17-24 | 225<br>14-17-22  | 338<br>15-18-25 |
|                                      | 2S                | 2G                   | CFM/SIDE<br>THROW, FT. | 150<br>10-12-16 |                 | 200<br>12-14-20 |                 | 250<br>14-15-22  |                 | 300<br>14-16-23  |                 | 350<br>15-17-25  |                 | 400<br>16-20-27  |                 | 450<br>17-20-29  |                 |
|                                      |                   | 1S                   | CFM/SIDE<br>THROW, FT. | 300<br>13-16-22 |                 | 400<br>14-18-26 |                 | 500<br>17-20-30  |                 | 600<br>18-21-31  |                 | 700<br>18-22-33  |                 | 800<br>20-23-33  |                 | 900<br>22-26-38  |                 |
|                                      |                   |                      |                        |                 |                 |                 |                 |                  |                 |                  |                 |                  |                 |                  |                 |                  |                 |
| 15<br>x<br>15<br><br>1.56<br>SQ. FT. |                   | —SP=1.8 TP<br>NC + 4 | CFM<br>NC              | 465<br>14       |                 | 625<br>23       |                 | 780<br>29        |                 | 935<br>34        |                 | 1090<br>37       |                 | 1250<br>43       |                 | 1400<br>45       |                 |
|                                      |                   |                      |                        | A               | B               | A               | B               | A                | B               | A                | B               | A                | B               | A                | B               | A                | B               |
|                                      |                   | 4A                   | CFM/SIDE<br>THROW, FT. | 117<br>10-13-17 |                 | 156<br>11-14-19 |                 | 195<br>13-15-22  |                 | 234<br>14-17-23  |                 | 273<br>15-18-24  |                 | 312<br>16-19-26  |                 | 350<br>17-21-28  |                 |
|                                      |                   | 3A                   | CFM/SIDE<br>THROW, FT. | 117<br>10-13-17 | 175<br>11-14-18 | 156<br>11-14-19 | 234<br>14-18-23 | 195<br>13-15-22  | 292<br>15-18-25 | 234<br>14-17-23  | 351<br>17-18-27 | 273<br>15-18-24  | 409<br>18-20-29 | 312<br>16-19-26  | 468<br>18-23-31 | 350<br>17-21-28  | 527<br>20-23-34 |
|                                      | 2S                | 2G                   | CFM/SIDE<br>THROW, FT. | 234<br>13-16-22 |                 | 312<br>15-18-25 |                 | 390<br>17-20-29  |                 | 468<br>18-22-32  |                 | 546<br>19-23-34  |                 | 625<br>22-25-36  |                 | 700<br>22-28-38  |                 |
|                                      |                   | 1S                   | CFM/SIDE<br>THROW, FT. | 467<br>17-20-29 |                 | 625<br>18-23-34 |                 | 780<br>21-26-38  |                 | 935<br>23-29-41  |                 | 1090<br>24-31-44 |                 | 1250<br>26-34-46 |                 | 1400<br>29-35-49 |                 |
|                                      |                   |                      |                        |                 |                 |                 |                 |                  |                 |                  |                 |                  |                 |                  |                 |                  |                 |
| 18<br>x<br>18<br><br>2.25<br>SQ. FT. |                   | —SP=2.1 TP<br>NC + 6 | CFM<br>NC              | 675<br>16       |                 | 900<br>25       |                 | 1125<br>31       |                 | 1350<br>35       |                 | 1575<br>40       |                 | 1800<br>43       |                 | 2025<br>46       |                 |
|                                      |                   |                      |                        | A               | B               | A               | B               | A                | B               | A                | B               | A                | B               | A                | B               | A                | B               |
|                                      |                   | 4A                   | CFM/SIDE<br>THROW, FT. | 168<br>12-15-20 |                 | 225<br>14-16-23 |                 | 281<br>15-19-26  |                 | 337<br>16-20-29  |                 | 394<br>18-22-30  |                 | 450<br>19-23-33  |                 | 506<br>20-25-34  |                 |
|                                      |                   | 3A                   | CFM/SIDE<br>THROW, FT. | 168<br>12-15-20 | 253<br>14-18-23 | 225<br>14-16-23 | 338<br>16-20-26 | 281<br>15-19-26  | 422<br>18-22-30 | 337<br>16-20-29  | 506<br>20-26-34 | 394<br>18-22-30  | 590<br>21-26-36 | 450<br>19-23-33  | 675<br>22-28-38 | 506<br>20-25-34  | 760<br>26-29-41 |
|                                      | 2S                | 2G                   | CFM/SIDE<br>THROW, FT. | 337<br>15-18-26 |                 | 450<br>18-21-30 |                 | 562<br>19-24-34  |                 | 675<br>21-25-37  |                 | 787<br>24-27-39  |                 | 900<br>24-28-42  |                 | 1012<br>26-31-44 |                 |
|                                      |                   | 1S                   | CFM/SIDE<br>THROW, FT. | 675<br>20-26-36 |                 | 900<br>24-29-41 |                 | 1125<br>27-34-46 |                 | 1350<br>29-36-49 |                 | 1575<br>31-38-53 |                 | 1800<br>34-42-56 |                 | 2025<br>37-44-60 |                 |
|                                      |                   |                      |                        |                 |                 |                 |                 |                  |                 |                  |                 |                  |                 |                  |                 |                  |                 |

For performance notes, see next page.

D

CEILING DIFFUSERS



## Performance Data

### Models 6500IV and 6200IV • Square Neck • Induction Vanes

| NOMINAL<br>NECK<br>SIZE              | BLOW<br>PATTERNS                                                                                                                                                              |                        | NECK<br>VELOCITY<br>TP        | 300<br>.035                   | 400<br>.062                    | 500<br>.097                    | 600<br>.140                    | 700<br>.191                    | 800<br>.249                    | 900<br>.316 |
|--------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|-------------------------------|-------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|-------------|
| 21<br>x<br>21<br><br>3.06<br>SQ. FT. | RETURN<br>FACTORS                                                                                                                                                             | —SP=2.6 TP<br>NC + 8   | CFM<br>NC                     | 915<br>18                     | 1225<br>26                     | 1530<br>32                     | 1835<br>36                     | 2140<br>41                     | 2450<br>44                     | 2750<br>47  |
|                                      |                                                                                                                                                                               |                        |                               | A B                           | A B                            | A B                            | A B                            | A B                            | A B                            | A B         |
|                                      |  4A                                                                                          | CFM/SIDE<br>THROW, FT. | 230<br>14-17-24               | 306<br>15-20-27               | 382<br>17-22-31                | 460<br>18-24-33                | 535<br>20-27-35                | 612<br>21-27-37                | 688<br>22-31-41                |             |
|                                      |  3A                                                                                          | CFM/SIDE<br>THROW, FT. | 230 345<br>12-15-21 16-20-27  | 306 460<br>14-18-23 18-22-31  | 382 573<br>15-20-27 21-25-36   | 460 688<br>16-21-29 22-27-40   | 535 802<br>18-22-31 23-29-42   | 612 918<br>18-23-32 27-31-45   | 688 1030<br>20-27-36 27-34-47  |             |
|                                      |  2S  2G     | CFM/SIDE<br>THROW, FT. | 458<br>18-22-31               | 612<br>20-25-36               | 765<br>22-28-40                | 917<br>25-31-44                | 1070<br>27-34-47               | 1225<br>27-36-50               | 1375<br>31-38-48               |             |
|                                      |  1S                                                                                          | CFM/SIDE<br>THROW, FT. | 917<br>23-30-41               | 1225<br>27-34-47              | 1530<br>31-40-54               | 1835<br>34-42-57               | 2140<br>37-45-62               | 2450<br>40-48-66               | 2750<br>42-51-70               |             |
| 24<br>x<br>24<br><br>4.0<br>SQ. FT.  | RETURN<br>FACTORS                                                                                                                                                             | —SP=2.7 TP<br>NC + 8   | CFM<br>NC                     | 1200<br>19                    | 1600<br>27                     | 2000<br>33                     | 2400<br>37                     | 2800<br>41                     | 3200<br>45                     | 3600<br>48  |
|                                      |                                                                                                                                                                               |                        |                               | A B                           | A B                            | A B                            | A B                            | A B                            | A B                            | A B         |
|                                      |  4A                                                                                          | CFM/SIDE<br>THROW, FT. | 300<br>16-19-26               | 400<br>19-22-32               | 500<br>22-25-35                | 600<br>23-26-38                | 700<br>25-28-41                | 800<br>26-32-44                | 900<br>28-32-46                |             |
|                                      |  3A                                                                                          | CFM/SIDE<br>THROW, FT. | 300 450<br>16-19-26 18-22-31  | 400 600<br>19-22-32 19-25-37  | 500 750<br>22-25-35 23-29-42   | 600 900<br>23-26-38 25-30-45   | 700 1050<br>25-28-41 29-33-47  | 800 1200<br>26-32-44 29-34-51  | 900 1350<br>28-32-46 31-38-54  |             |
|                                      |  2S  2G     | CFM/SIDE<br>THROW, FT. | 600<br>20-26-36               | 800<br>24-29-41               | 1000<br>27-34-46               | 1200<br>29-36-49               | 1400<br>31-38-53               | 1600<br>34-42-56               | 1800<br>37-44-60               |             |
|                                      |  1S                                                                                          | CFM/SIDE<br>THROW, FT. | 1200<br>28-32-47              | 1600<br>30-38-54              | 2000<br>36-43-62               | 2400<br>38-46-66               | 2800<br>41-50-72               | 3200<br>43-54-74               | 3600<br>47-56-81               |             |
| 30<br>x<br>30<br><br>6.25<br>SQ. FT. | RETURN<br>FACTORS                                                                                                                                                             | —SP=3.1 TP<br>NC + 8   | CFM<br>NC                     | 1875<br>20                    | 2500<br>28                     | 3125<br>34                     | 3750<br>39                     | 4375<br>43                     | 5000<br>46                     | 5625<br>50  |
|                                      |                                                                                                                                                                               |                        |                               | A B                           | A B                            | A B                            | A B                            | A B                            | A B                            | A B         |
|                                      |  4A                                                                                        | CFM/SIDE<br>THROW, FT. | 469<br>20-25-34               | 625<br>23-29-38               | 782<br>27-32-44                | 937<br>29-35-49                | 1093<br>30-37-52               | 1250<br>32-40-55               | 1406<br>37-42-58               |             |
|                                      |  3A                                                                                        | CFM/SIDE<br>THROW, FT. | 469 703<br>20-25-34 22-27-39  | 625 938<br>23-29-38 26-31-46  | 782 1172<br>27-32-44 28-35-51  | 937 1405<br>29-35-49 31-39-55  | 1093 1640<br>30-37-52 33-39-59 | 1250 1875<br>32-40-55 35-46-62 | 1406 2110<br>37-42-58 39-48-66 |             |
|                                      |  2S  2G | CFM/SIDE<br>THROW, FT. | 937<br>26-32-44               | 1250<br>30-38-50              | 1562<br>34-42-58               | 1875<br>38-46-62               | 2187<br>40-48-66               | 2500<br>42-52-70               | 2812<br>46-54-76               |             |
|                                      |  1S                                                                                        | CFM/SIDE<br>THROW, FT. | 1875<br>34-42-58              | 2500<br>39-48-66              | 3125<br>45-55-74               | 3750<br>48-58-82               | 4375<br>50-62-87               | 5000<br>55-66-117              | 5625<br>58-70-98               |             |
| 36<br>x<br>36<br><br>9.0<br>SQ. FT.  | RETURN<br>FACTORS                                                                                                                                                             | —SP=3.6 TP<br>NC + 9   | CFM<br>NC                     | 2700<br>22                    | 3600<br>29                     | 4500<br>35                     | 5400<br>40                     | 6300<br>44                     | 7200<br>48                     | 8100<br>52  |
|                                      |                                                                                                                                                                               |                        |                               | A B                           | A B                            | A B                            | A B                            | A B                            | A B                            | A B         |
|                                      |  4A                                                                                        | CFM/SIDE<br>THROW, FT. | 675<br>24-30-41               | 900<br>27-33-46               | 1125<br>31-37-54               | 1350<br>33-41-59               | 1575<br>35-42-62               | 1800<br>41-46-66               | 2025<br>41-51-70               |             |
|                                      |  3A                                                                                        | CFM/SIDE<br>THROW, FT. | 675 1010<br>24-30-41 27-35-46 | 900 1350<br>27-33-46 32-38-54 | 1125 1687<br>31-37-54 37-45-62 | 1350 2025<br>33-41-59 38-48-66 | 1575 2362<br>35-42-62 42-51-70 | 1800 2700<br>41-46-66 46-56-75 | 2025 3038<br>41-51-70 50-59-80 |             |
|                                      |  2S  2G | CFM/SIDE<br>THROW, FT. | 1350<br>32-36-54              | 1800<br>34-43-61              | 2250<br>40-49-69               | 2700<br>43-52-74               | 3150<br>46-56-81               | 3600<br>49-61-83               | 4050<br>54-63-90               |             |
|                                      |  1S                                                                                        | CFM/SIDE<br>THROW, FT. | 2700<br>39-49-68              | 3600<br>47-56-79              | 4500<br>53-64-91               | 5400<br>58-68-98               | 6300<br>61-73-105              | 7200<br>66-78-114              | 8100<br>70-85-120              |             |

CFM - cubic feet per minute

Neck Velocity - feet per minute

TP - total pressure - inches w.g.

NC - Noise Criteria (values) based on 10 dB room absorption, re 10<sup>-12</sup> watts.

#### Performance Notes:

1. Throw values are given for terminal velocities of 150, 100 and 50 fpm under isothermal conditions. Data applies to ceiling mounted units when the maximum coanda effect applies. When no ceiling is present (exposed

duct), throws are reduced by approximately 25%.

2. Sound levels in performance tables are for steel construction — **Model 6500IV**. Apply the following corrections for aluminum construction — **Model 6200IV**.

TP = Listed value x 1.25.

NC = Listed value + 4.

3. Performance data as tabulated is for supply air conditions. Correction factors for return air application - see next page.

4. Correction factors for round inlets - see next page.

5. Data derived from tests conducted in accordance with ANSI/ASHRAE Standard 70 - 1991.

## Performance Data Corrections

### Model Series 6500IV and 6200IV

#### CORRECTION FACTORS FOR RETURN INLET

If the unit is used as a return inlet, the performance data is obtained by applying the return corrections, as follows:

- Add the NC correction at the left side of the table to the NC value listed in the performance table.
- Multiply the listed SP factor at the left side of the table by the total pressure (TP) listed at the top of the table.

#### Example:

12" x 12" unit handling 600 cfm of return air. (Page D39).

- Return NC = 32 + 4 = 36.
- Return negative SP = 1.3 x (– .14) = – .182.

#### CORRECTION FACTORS WITH SQUARE TO ROUND INLET ADAPTOR

- Add the NC correction factor from Table 2 and the NC value listed in the performance tables.
- Multiply the correction factor from Table 2 by the listed total pressure in the performance tables.
- Multiply the correction factor from Table 2 by the listed throws in the performance tables.

#### Example:

12" x 12" unit with 10" round adaptor handling 500 cfm supply air. (Page D39).

- NC = 27 + 7 = 34
- Total Pressure = .097 x 1.65 = 0.160
- Throw = 17 x 1.15 = 19.55 feet @ 50 fpm terminal velocity.

**TABLE 2 Correction Factors for SR Adaptors**

| SQUARE INLET | ROUND INLET | NC (add) | TP (multiply) | THROW (multiply) |      |      |
|--------------|-------------|----------|---------------|------------------|------|------|
|              |             |          |               | 150              | 100  | 50   |
| 6 x 6        | 5           | 7        | 1.65          | 1.10             | 1.10 | 1.15 |
| 9 x 9        | 6           | 17       | 3.50          | 1.15             | 1.15 | 1.20 |
| 9 x 9        | 8           | 4        | 1.40          | 1.10             | 1.10 | 1.10 |
| 12 x 12      | 8           | 17       | 3.50          | 1.15             | 1.15 | 1.20 |
| 12 x 12      | 10          | 7        | 1.65          | 1.10             | 1.10 | 1.15 |
| 15 x 15      | 10          | 17       | 3.50          | 1.15             | 1.15 | 1.20 |
| 15 x 15      | 12          | 9        | 1.90          | 1.10             | 1.10 | 1.15 |
| 15 x 15      | 14          | 3        | 1.25          | 1.05             | 1.05 | 1.10 |
| 18 x 18      | 12          | 17       | 3.50          | 1.15             | 1.15 | 1.20 |
| 18 x 18      | 14          | 10       | 2.00          | 1.10             | 1.10 | 1.15 |
| 18 x 18      | 16          | 5        | 1.45          | 1.10             | 1.10 | 1.10 |
| 21 x 21      | 14          | 17       | 3.70          | 1.15             | 1.15 | 1.20 |
| 21 x 21      | 16          | 11       | 2.25          | 1.10             | 1.10 | 1.15 |
| 21 x 21      | 18          | 6        | 1.60          | 1.10             | 1.10 | 1.10 |
| 21 x 21      | 20          | 3        | 1.20          | 1.05             | 1.05 | 1.10 |
| 24 x 24      | 16          | 17       | 3.50          | 1.15             | 1.15 | 1.20 |
| 24 x 24      | 18          | 12       | 2.35          | 1.10             | 1.10 | 1.15 |
| 24 x 24      | 20          | 7        | 1.65          | 1.10             | 1.10 | 1.15 |
| 24 x 24      | 22          | 4        | 1.33          | 1.05             | 1.05 | 1.10 |

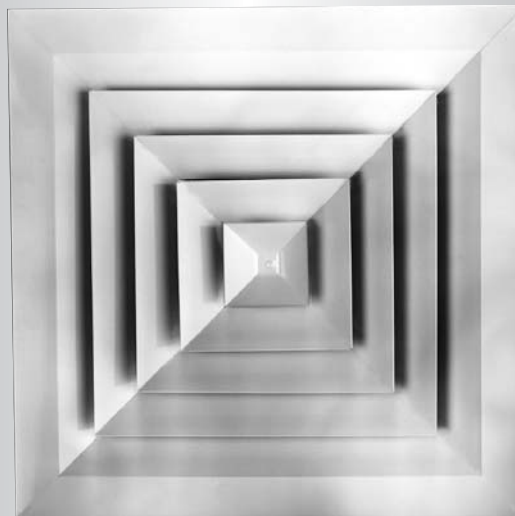
## SQUARE AND RECTANGULAR PATTERN CEILING DIFFUSERS

- LOUVERED FACE
- EXTRA HIGH CAPACITY
- SQUARE, RECTANGULAR OR ROUND NECKS
- ALUMINUM

### Model:

#### 6400 Fixed Pattern

- Suffix '-O' adds a steel opposed blade damper
- Suffix '-OA' adds an aluminum opposed blade damper



Model 6400

The **Nailor Model Series 6400 Fixed Pattern Ceiling Diffusers** have been specially designed to provide an extra high capacity louvered face directional diffuser that can supply large volumes of air at relatively low sound levels and pressure drops. The Model 6400 differs from the 6200 Series diffuser only in that the leading edge on all angular discharge louvers is straight, without the horizontal lip. This results in a relatively deeper primary air stream emanating from the diffuser, which produces shorter throws and slightly lower sound levels. The 6400 Series relies on the ceiling coanda effect in order to maintain the catalogued throws for engineered air distribution and performance and is recommended for applications with higher ceiling heights or for heating applications to minimize stratification.

Available with a wide variety of core styles and neck sizes, a combination can be selected to suit a specified air pattern and deliver the desired volume of air to suit any particular requirement. Many frame types are also available to suit almost any mounting condition including surface mount (flat, beveled or deep drop face) and T-Bar panel types (Standard 1" (25), Fineline®, Spline, Tegal or Metal Snap-in). These models therefore offer a great degree of design flexibility.

### FEATURES:

- Spring loaded core. Removable without the use of tools.
- High neck collars for solid connection.
- Secure core attachment.
- A wide variety of frame styles to suit most ceiling applications.
- Optional extended panels to suit modular ceiling systems.
- Engineered air diffusion patterns for 1, 2, 3 or 4-way blow in a wide selection of square and rectangular neck sizes (see page D45).
- Clean lines with no unsightly visible screws.
- Square-to-round transition adaptors are available (SR option).
- Optional opposed blade damper with screwdriver slot operator.

**Material:** Aluminum.

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

### AVAILABLE SIZES:

Unit size is determined by duct dimensions. Diffuser necks are undersized to suit ductwork.

Duct sizes are available in 3" (76) increments.

Minimum size:

6" x 6" (152 x 152) square neck. 9" x 6" (229 x 152) rectangular neck (most core styles).

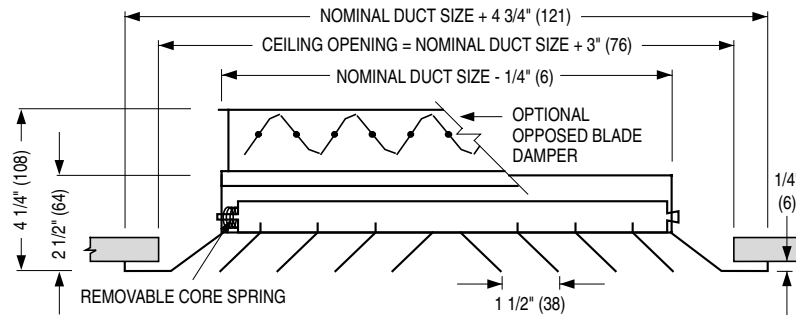
Maximum size:

Types S, B and D: 36" x 36" (914 x 914).  
Types L, SP, TL, M and F: see page D43.

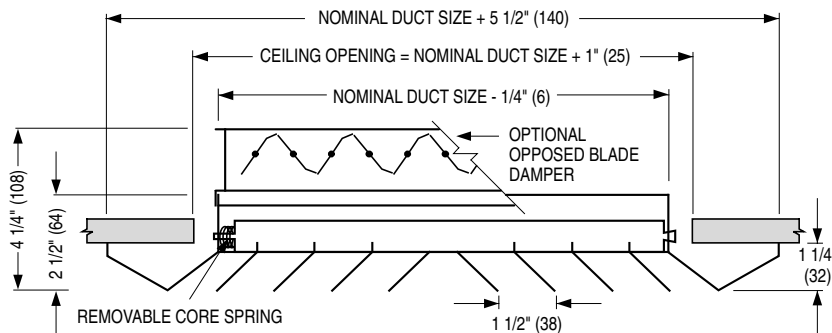
## Dimensional Data and Frame Types

### Model Series 6400

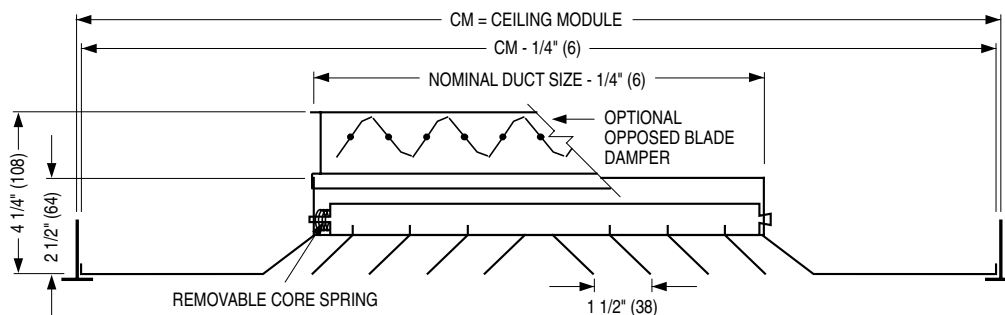
#### Type S Surface Mount Frame



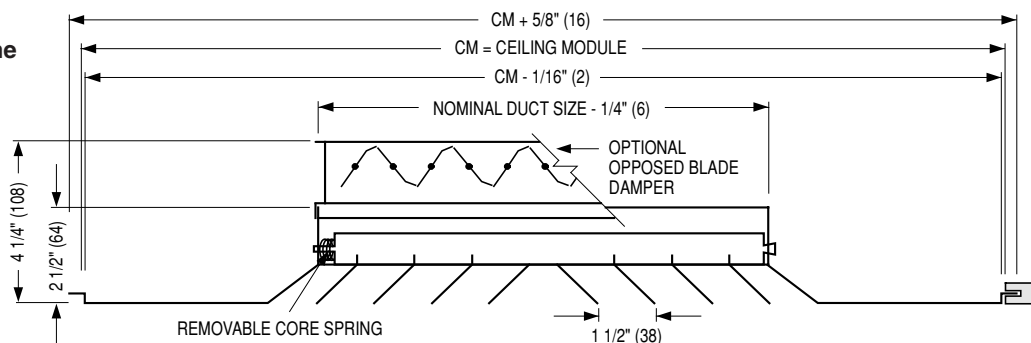
#### Type B Beveled Drop Face Frame



#### Type L Lay-In T-Bar Frame



#### Type SP Spline Frame



SPLINE TYPE DIFFUSER FOR ONE-DIRECTIONAL EXPOSED T-BAR LAY-IN GRID OR FOR CONCEALED T-BAR GRID. (SPLINES ON TWO OPPOSITE SIDES. STEEL LIFT BRACKETS ON THE OTHER TWO SIDES).

#### Extended Panel Diffusers Frame Types L, SP, TL, M and F

If the ceiling module is more than 3" (76) larger than the neck size of the diffuser in either or both dimensions, a steel module-sized extended panel will be added. Aluminum is available as an option.

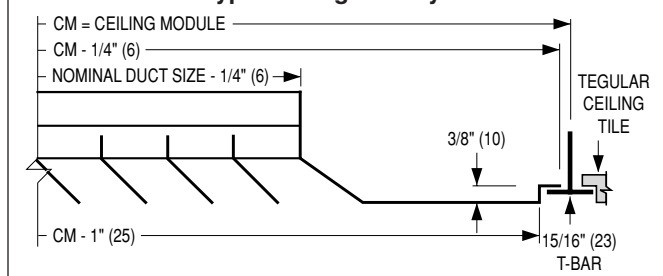
See the table at right for the maximum duct size for each module size.

| TABLE 1              |                                       |                                   |
|----------------------|---------------------------------------|-----------------------------------|
| Ceiling Module Size  | Maximum Duct Size Frames L, SP, and M | Maximum Duct Size Frames TL and F |
| 12 x 12 (305 x 305)  | 9 x 9 (229 x 229)                     | 6 x 6 (152 x 152)                 |
| 20 x 20 (508 x 508)  | 15 x 15 (381 x 381)                   | —                                 |
| 24 x 12 (610 x 305)  | 21 x 9 (533 x 229)                    | 18 x 6 (457 x 152)                |
| 24 x 24 (610 x 610)  | 21 x 21 (533 x 533)                   | 18 x 18 (457 x 457)               |
| 48 x 24 (1219 x 610) | 45 x 21 (1143 x 533)                  | —                                 |

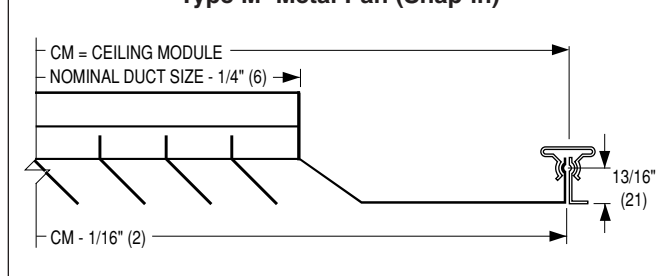
Dimensions are in inches (mm).

## Dimensional Data and Frame Types Model Series 6400

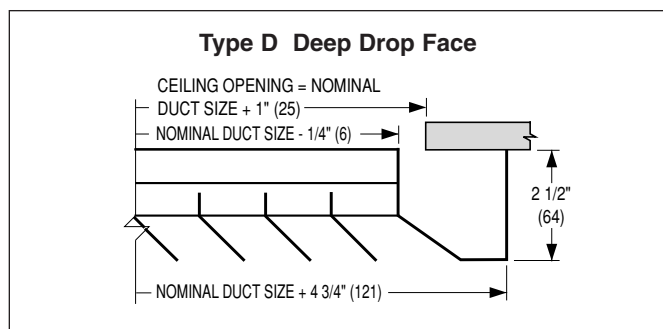
**Type TL Tegular Lay-in**



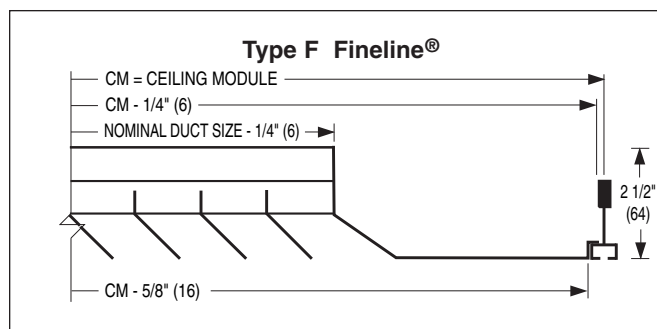
**Type M Metal Pan (Snap-in)**



**Type D Deep Drop Face**



**Type F Fineline®**



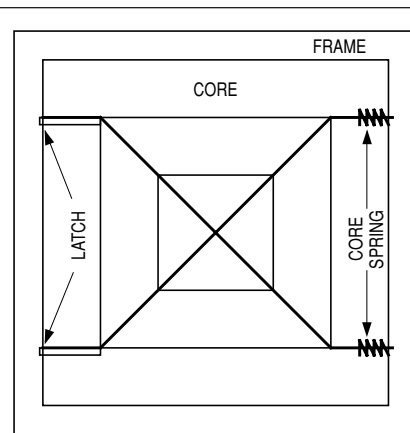
D  
CEILING DIFFUSERS

### REMOVABLE CORE

- Standard feature of **Model 6400**.
- Engineered design allows easy removal without the need for tools, yet remains securely in place.

### HOW TO REMOVE "REMOVABLE" CORE

To remove diffuser core, lift the complete core assembly to disengage the latch, push the core against the core spring, pull down the core slightly and remove. Reverse procedure to re-install.





## Standard Core Styles Model Series 6400

Contact factory for special core configurations.

### SIZES AVAILABLE



Type 1S



Type 2S



Type 2G



Type 3A



Type 4A

|                   | SQUARE               | RECTANGULAR                                                                                                                                                           | CORE                                     | MINIMUM                                                                                                                                                                | MAXIMUM                                                                                                                                                                            |
|-------------------|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| →<br>1-WAY        | <br>1S               | <br>1A<br>1B                                                                                                                                                          | 1S<br>1A<br>1B                           | 6 x 6<br>(152 x 152)<br>9 x 6<br>(229 x 152)<br>9 x 6<br>(229 x 152)                                                                                                   | 36 x 36<br>(914 x 914)<br>36 x 33<br>(914 x 838)<br>36 x 33<br>(914 x 838)                                                                                                         |
| ↕<br>2-WAY        | <br>2S               | <br>2A<br>2B                                                                                                                                                          | 2S<br>2A<br>2B                           | 6 x 6<br>(152 x 152)<br>9 x 6<br>(229 x 152)<br>9 x 6<br>(229 x 152)                                                                                                   | 36 x 36<br>(914 x 914)<br>36 x 33<br>(914 x 838)<br>36 x 33<br>(914 x 838)                                                                                                         |
| ↻<br>2-WAY CORNER | <br>2G               | <br>2C<br>2D<br><br><br>2E<br>2F                                                                                                                                      | 2G<br>2C<br>2D<br>2E<br>2F               | 6 x 6<br>(152 x 152)<br>9 x 6<br>(229 x 152)<br>9 x 6<br>(229 x 152)<br>9 x 6<br>(229 x 152)<br>9 x 6<br>(229 x 152)                                                   | 36 x 36<br>(914 x 914)<br>36 x 33<br>(914 x 838)<br>36 x 33<br>(914 x 838)<br>36 x 33<br>(914 x 838)<br>36 x 33<br>(914 x 838)                                                     |
| ↻<br>3-WAY        | <br>3A<br><br><br>3H | <br>3A1<br>3A2<br>(A is greater than B)      (B is less than A but greater than A/2)<br><br><br>3B<br>3C<br>(B is equal to A/2)<br><br><br>3E<br>(B is less than A/2) | 3A<br>3A1<br>3A2<br>3B<br>3C<br>3E<br>3H | 6 x 6<br>(152 x 152)<br>9 x 6<br>(229 x 152)<br>9 x 6<br>(229 x 152)<br>12 x 6<br>(305 x 152)<br>9 x 6<br>(229 x 152)<br>15 x 6<br>(381 x 152)<br>6 x 6<br>(152 x 152) | 36 x 36<br>(914 x 914)<br>36 x 33<br>(914 x 838)<br>36 x 33<br>(914 x 838)<br>36 x 18<br>(914 x 457)<br>36 x 33<br>(914 x 838)<br>36 x 15<br>(914 x 381)<br>36 x 36<br>(914 x 914) |
| ↻<br>4-WAY        | <br>4A               | <br>4B<br>4C<br><br><br>4E                                                                                                                                            | 4A<br>4B<br>4C<br>4E                     | 6 x 6<br>(152 x 152)<br>9 x 6<br>(229 x 152)<br>12 x 6<br>(305 x 152)<br>15 x 6<br>(381 x 152)                                                                         | 36 x 36<br>(914 x 914)<br>36 x 33<br>(914 x 838)<br>36 x 30<br>(914 x 762)<br>36 x 27<br>(914 x 686)                                                                               |

Dimensions are in inches (mm).

### Notes:

1. Duct sizes are available in 3" (76) increments.
2. Unless otherwise specified, the "x" dimension on 3C and 4E patterns will be such that cataloged flow division is obtained.
3. Patterns are shown in plan view (looking down into inlet).

## HOW TO SPECIFY OR TO ORDER

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

### High Capacity Pattern Ceiling Diffusers – Model Series 6400

**6400 - O - 9 x 9 - 24 x 24 - L - AW - 4A - SR08**

#### MODEL

- Aluminum Fixed Pattern 6400

#### DAMPER

- No Damper (default) —  
 - Opposed Blade (steel) O  
 - Opposed Blade (alum.) OA

#### NECK SIZE (W x H)

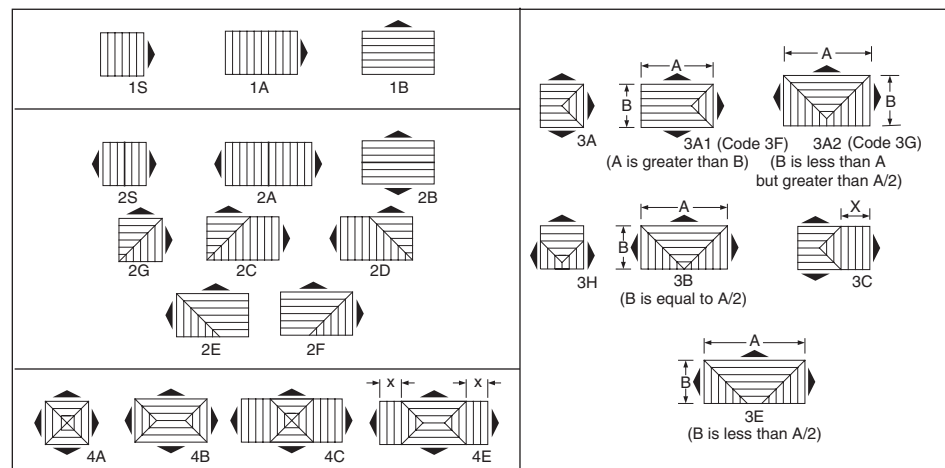
#### PANEL SIZE (TYPES L, SP, M, TL AND F ONLY)

| Imperial (inches) | Metric (mm) |
|-------------------|-------------|
| - 12 x 12         | 300 x 300   |
| - 20 x 20         | 500 x 500   |
| - 24 x 12         | 600 x 300   |
| - 24 x 24         | 600 x 600   |
| - 48 x 24         | 1200 x 600  |

#### FRAME TYPE

- Surface Mount Flat S  
 - T-Bar Lay-In L  
 - Spline SP  
 - Surface Mount Beveled B  
 - Metal Pan M  
 - Tegular (Drop Face) TL  
 - Fineline® F  
 - Surface Mount (Deep Drop) D

#### CORE STYLE CHART



#### ACCESSORIES

- None (default) —  
 - Square to Round Transition Collar (04 thru 20 specify) SR  
 - Earthquake Tabs EQT  
 - Alum. Extended Panel PLA

#### AIR BALANCING DEVICES

##### Rectangular Neck:

- Equalizing Grid (long) EGL  
 - Equalizing Grid (short) EGS  
 - Damper/Equal. Grid (long) DEGL  
 - Damper/Equal. Grid (short) DEGS

##### Round Neck:

- Radial Sliding Blade Damper 4250  
 - Radial Opposed Blade Damper 4275  
 - Butterfly Damper 4675  
 - Equalizing Grid EGR  
 - Damper/Equalizing Grid DEGR

#### CORE STYLE (See Below).

#### FINISH

- Appliance White (default) AW  
 - Aluminum AL  
 - Special Custom Color SP

#### Note:

1. Consult text as to limitations of panel, neck size and core style combinations.

#### SUGGESTED SPECIFICATION:

Furnish and install **Nailor Model 6400 High Capacity Pattern Ceiling Diffusers** of the sizes and capacities as shown on the plans and air distribution schedules. Units shall be extruded aluminum construction with miscellaneous steel components. Blades and frame shall have reinforced staked mitered corners for high quality appearance and function. Diffusers shall consist of an outer frame assembly to suit the application shown, which includes an integral collar for connection to the square or rectangular duct size indicated. A square to round transition collar shall be supplied where indicated to facilitate attachment of round duct.

An inner core assembly consisting of fixed deflection louvers capable of producing the airflow discharge indicated on the plans shall be securely held in place by a spring loaded mechanism without the need for visible screws. The core shall be fully removable in the field without tools for the purpose of installation, cleaning or damper adjustment.

The finish shall 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) shall be provided with all units.

The manufacturer shall provide published performance data for the diffuser, which shall be tested in accordance with ANSI/ASHRAE Standard 70 – 1991.

## Performance Data

### Model 6400 • Square Neck

| NOMINAL<br>NECK<br>SIZE              | BLOW<br>PATTERNS                 | NECK VEL.<br>VP<br>TP  | 300<br>.006<br>.029         | 400<br>.010<br>.051          | 500<br>.016<br>.080          | 600<br>.022<br>.116          | 700<br>.031<br>.157          | 800<br>.040<br>.205          | 900<br>.050<br>.260          |
|--------------------------------------|----------------------------------|------------------------|-----------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 6<br>x<br>6<br><br>.25<br>SQ. FT.    | RETURN FACTORS —SP=1.1 TP NC + 1 | CFM NC                 | 75<br>—                     | 100<br>10                    | 125<br>17                    | 150<br>22                    | 175<br>26                    | 200<br>31                    | 225<br>35                    |
|                                      | 4A                               | CFM/SIDE<br>THROW, FT. | 19<br>4-5-8                 | 25<br>5-6-9                  | 31<br>6-8-10                 | 37<br>6-8-11                 | 44<br>8-9-12                 | 50<br>8-9-12                 | 56<br>9-10-13                |
|                                      | 3A                               | CFM/SIDE<br>THROW, FT. | 19 28<br>4-5-8 5-8-11       | 25 38<br>5-6-9 6-9-12        | 31 47<br>6-8-10 8-10-14      | 37 56<br>6-8-11 8-11-15      | 44 66<br>8-9-12 9-12-16      | 50 75<br>8-9-12 9-12-17      | 56 85<br>9-10-13 10-13-18    |
|                                      | 2S  2G                           | CFM/SIDE<br>THROW, FT. | 37<br>8-9-12                | 50<br>9-10-14                | 62<br>10-11-16               | 75<br>11-12-17               | 88<br>12-13-18               | 100<br>12-14-19              | 113<br>13-15-22              |
|                                      | 1S                               | CFM/SIDE<br>THROW, FT. | 75<br>9-11-15               | 100<br>10-12-17              | 125<br>11-14-19              | 150<br>12-15-22              | 175<br>13-16-22              | 200<br>14-17-24              | 225<br>15-18-25              |
| 9<br>x<br>9<br><br>.56<br>SQ. FT.    | RETURN FACTORS —SP=1.2 TP NC + 2 | CFM NC                 | 170<br>—                    | 225<br>14                    | 280<br>20                    | 340<br>26                    | 395<br>31                    | 450<br>35                    | 505<br>38                    |
|                                      | 4A                               | CFM/SIDE<br>THROW, FT. | 42<br>5-6-10                | 56<br>6-8-11                 | 70<br>8-9-12                 | 84<br>8-10-13                | 98<br>9-10-14                | 112<br>9-11-15               | 126<br>10-12-16              |
|                                      | 3A                               | CFM/SIDE<br>THROW, FT. | 42 63<br>5-6-10 8-10-13     | 56 85<br>6-8-11 9-11-15      | 70 106<br>8-9-12 10-12-17    | 84 127<br>8-10-13 11-13-18   | 98 148<br>9-10-14 12-14-19   | 112 169<br>9-11-15 12-15-22  | 126 190<br>10-12-16 13-16-22 |
|                                      | 2S  2G                           | CFM/SIDE<br>THROW, FT. | 84<br>9-10-15               | 112<br>11-13-18              | 141<br>12-15-20              | 169<br>13-16-22              | 197<br>14-17-23              | 225<br>15-18-25              | 253<br>16-19-28              |
|                                      | 1S                               | CFM/SIDE<br>THROW, FT. | 169<br>12-15-20             | 225<br>14-17-23              | 282<br>16-19-26              | 338<br>17-22-29              | 394<br>18-22-31              | 450<br>19-24-33              | 507<br>22-25-35              |
| 12<br>x<br>12<br><br>1.0<br>SQ. FT.  | RETURN FACTORS —SP=1.3 TP NC + 4 | CFM NC                 | 300<br>10                   | 400<br>17                    | 500<br>23                    | 600<br>28                    | 700<br>33                    | 800<br>36                    | 900<br>39                    |
|                                      | 4A                               | CFM/SIDE<br>THROW, FT. | 75<br>6-9-11                | 100<br>8-10-13               | 125<br>9-11-15               | 150<br>10-12-16              | 175<br>10-13-17              | 200<br>11-14-18              | 225<br>12-15-19              |
|                                      | 3A                               | CFM/SIDE<br>THROW, FT. | 75 112<br>6-9-11 9-11-15    | 100 150<br>8-10-13 10-12-17  | 125 187<br>9-11-15 11-14-19  | 150 225<br>10-12-16 12-15-22 | 175 262<br>10-13-17 13-16-22 | 200 300<br>11-14-18 14-17-24 | 225 338<br>12-15-19 15-18-25 |
|                                      | 2S  2G                           | CFM/SIDE<br>THROW, FT. | 150<br>11-13-18             | 200<br>13-15-22              | 250<br>15-17-24              | 300<br>16-18-26              | 350<br>17-19-28              | 400<br>18-22-30              | 450<br>19-22-32              |
|                                      | 1S                               | CFM/SIDE<br>THROW, FT. | 300<br>14-17-24             | 400<br>16-19-28              | 500<br>18-22-32              | 600<br>19-23-34              | 700<br>22-25-36              | 800<br>23-27-38              | 900<br>24-29-41              |
| 15<br>x<br>15<br><br>1.56<br>SQ. FT. | RETURN FACTORS —SP=1.8 TP NC + 4 | CFM NC                 | 465<br>10                   | 625<br>19                    | 780<br>25                    | 935<br>30                    | 1090<br>33                   | 1250<br>38                   | 1400<br>41                   |
|                                      | 4A                               | CFM/SIDE<br>THROW, FT. | 117<br>8-10-13              | 156<br>9-11-15               | 195<br>10-12-17              | 234<br>11-13-18              | 273<br>12-14-19              | 312<br>12-15-22              | 350<br>13-16-24              |
|                                      | 3A                               | CFM/SIDE<br>THROW, FT. | 117 175<br>8-10-13 11-13-18 | 156 234<br>9-11-15 13-15-22  | 195 292<br>10-12-17 15-17-24 | 234 351<br>11-13-18 16-18-26 | 273 409<br>12-14-19 17-19-28 | 312 468<br>12-15-22 18-22-30 | 350 527<br>13-16-24 19-22-32 |
|                                      | 2S  2G                           | CFM/SIDE<br>THROW, FT. | 234<br>13-16-22             | 312<br>15-18-25              | 390<br>17-20-29              | 468<br>18-22-32              | 546<br>19-23-34              | 625<br>22-25-36              | 700<br>22-28-38              |
|                                      | 1S                               | CFM/SIDE<br>THROW, FT. | 467<br>16-19-28             | 625<br>18-22-32              | 780<br>20-25-36              | 935<br>22-28-39              | 1090<br>23-30-42             | 1250<br>25-32-44             | 1400<br>28-34-47             |
| 18<br>x<br>18<br><br>2.25<br>SQ. FT. | RETURN FACTORS —SP=2.1 TP NC + 6 | CFM NC                 | 675<br>12                   | 900<br>21                    | 1125<br>27                   | 1350<br>31                   | 1575<br>36                   | 1800<br>39                   | 2025<br>42                   |
|                                      | 4A                               | CFM/SIDE<br>THROW, FT. | 168<br>9-11-15              | 225<br>10-12-17              | 281<br>11-14-19              | 337<br>12-15-21              | 394<br>13-16-22              | 450<br>14-17-24              | 506<br>15-18-25              |
|                                      | 3A                               | CFM/SIDE<br>THROW, FT. | 168 253<br>9-11-15 12-15-20 | 225 338<br>10-12-17 14-17-23 | 281 422<br>11-14-19 16-19-26 | 337 506<br>12-15-21 17-22-29 | 394 590<br>13-16-22 18-22-31 | 450 675<br>14-17-24 19-24-33 | 506 760<br>15-18-25 22-25-35 |
|                                      | 2S  2G                           | CFM/SIDE<br>THROW, FT. | 337<br>14-17-24             | 450<br>16-19-28              | 562<br>18-22-32              | 675<br>19-23-34              | 787<br>22-25-36              | 900<br>22-26-39              | 1012<br>24-29-41             |
|                                      | 1S                               | CFM/SIDE<br>THROW, FT. | 675<br>17-22-30             | 900<br>20-24-34              | 1125<br>23-28-39             | 1350<br>24-30-41             | 1575<br>26-32-44             | 1800<br>29-35-47             | 2025<br>31-37-50             |

For performance notes, see page D60.

**D**

CEILING DIFFUSERS

## Performance Data

### Model 6400 • Square Neck

| NOMINAL<br>NECK<br>SIZE              | BLOW<br>PATTERNS  |                        | NECK VEL.<br>VP<br>TP         | 300<br>.006<br>.029           | 400<br>.010<br>.051            | 500<br>.016<br>.080            | 600<br>.022<br>.116            | 700<br>.031<br>.157            | 800<br>.040<br>.205            | 900<br>.050<br>.260 |
|--------------------------------------|-------------------|------------------------|-------------------------------|-------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|---------------------|
| 21<br>x<br>21<br><br>3.06<br>SQ. FT. | RETURN<br>FACTORS | —SP=2.6 TP<br>NC + 8   | CFM<br>NC                     | 915<br>14                     | 1225<br>22                     | 1530<br>28                     | 1835<br>32                     | 2140<br>37                     | 2450<br>40                     | 2750<br>43          |
|                                      |                   |                        |                               | A B                           | A B                            | A B                            | A B                            | A B                            | A B                            | A B                 |
|                                      | 4A                | CFM/SIDE<br>THROW, FT. | 230<br>10-12-17               | 306<br>11-14-19               | 382<br>12-16-22                | 460<br>13-17-23                | 535<br>14-18-25                | 612<br>15-19-26                | 688<br>16-22-29                |                     |
|                                      | 3A                | CFM/SIDE<br>THROW, FT. | 230 345<br>10-12-17 13-16-22  | 306 460<br>11-14-19 15-18-25  | 382 573<br>12-16-22 17-20-29   | 460 688<br>13-17-23 18-22-32   | 535 802<br>14-18-25 19-23-34   | 612 918<br>15-19-26 22-25-36   | 688 1030<br>16-22-29 22-28-38  |                     |
|                                      | 2S  2G            | CFM/SIDE<br>THROW, FT. | 458<br>16-19-28               | 612<br>18-22-32               | 765<br>20-25-36                | 917<br>22-28-39                | 1070<br>23-30-42               | 1225<br>25-32-44               | 1375<br>28-34-47               |                     |
|                                      | 1S                | CFM/SIDE<br>THROW, FT. | 917<br>19-24-33               | 1225<br>22-28-38              | 1530<br>25-32-43               | 1835<br>28-34-46               | 2140<br>30-36-50               | 2450<br>32-39-53               | 2750<br>34-41-57               |                     |
| 24<br>x<br>24<br><br>4.0<br>SQ. FT.  | RETURN<br>FACTORS | —SP=2.7 TP<br>NC + 8   | CFM<br>NC                     | 1200<br>15                    | 1600<br>23                     | 2000<br>29                     | 2400<br>33                     | 2800<br>37                     | 3200<br>41                     | 3600<br>44          |
|                                      |                   |                        |                               | A B                           | A B                            | A B                            | A B                            | A B                            | A B                            | A B                 |
|                                      | 4A                | CFM/SIDE<br>THROW, FT. | 300<br>11-13-18               | 400<br>13-15-22               | 500<br>15-17-24                | 600<br>16-18-26                | 700<br>17-19-28                | 800<br>18-22-30                | 900<br>19-22-32                |                     |
|                                      | 3A                | CFM/SIDE<br>THROW, FT. | 300 450<br>11-13-18 14-17-24  | 400 600<br>13-15-22 16-19-28  | 500 750<br>15-17-24 18-22-32   | 600 900<br>16-18-26 19-23-34   | 700 1050<br>17-19-28 22-25-36  | 800 1200<br>18-22-30 22-26-39  | 900 1350<br>19-22-32 24-29-41  |                     |
|                                      | 2S  2G            | CFM/SIDE<br>THROW, FT. | 600<br>17-22-30               | 800<br>20-24-34               | 1000<br>23-28-39               | 1200<br>24-30-41               | 1400<br>26-32-44               | 1600<br>29-35-47               | 1800<br>31-37-50               |                     |
|                                      | 1S                | CFM/SIDE<br>THROW, FT. | 1200<br>22-25-37              | 1600<br>24-30-42              | 2000<br>28-34-48               | 2400<br>30-36-51               | 2800<br>32-39-56               | 3200<br>34-42-58               | 3600<br>37-44-63               |                     |
| 30<br>x<br>30<br><br>6.25<br>SQ. FT. | RETURN<br>FACTORS | —SP=3.1 TP<br>NC + 8   | CFM<br>NC                     | 1875<br>16                    | 2500<br>24                     | 3125<br>30                     | 3750<br>35                     | 4375<br>39                     | 5000<br>42                     | 5625<br>46          |
|                                      |                   |                        |                               | A B                           | A B                            | A B                            | A B                            | A B                            | A B                            | A B                 |
|                                      | 4A                | CFM/SIDE<br>THROW, FT. | 469<br>12-15-20               | 625<br>14-17-23               | 782<br>16-19-26                | 937<br>17-21-29                | 1093<br>18-22-31               | 1250<br>19-24-33               | 1406<br>22-25-35               |                     |
|                                      | 3A                | CFM/SIDE<br>THROW, FT. | 469 703<br>12-15-20 16-19-28  | 625 938<br>14-17-23 18-22-32  | 782 1172<br>16-19-26 20-25-36  | 937 1405<br>17-21-29 22-28-39  | 1093 1640<br>18-22-31 23-28-42 | 1250 1875<br>19-24-33 25-32-44 | 1406 2110<br>22-25-35 28-34-47 |                     |
|                                      | 2S  2G            | CFM/SIDE<br>THROW, FT. | 937<br>19-24-33               | 1250<br>22-28-38              | 1562<br>25-32-43               | 1875<br>28-34-46               | 2187<br>30-36-50               | 2500<br>32-39-53               | 2812<br>34-41-57               |                     |
|                                      | 1S                | CFM/SIDE<br>THROW, FT. | 1875<br>24-30-41              | 2500<br>28-34-47              | 3125<br>32-39-53               | 3750<br>34-41-58               | 4375<br>36-44-62               | 5000<br>39-47-66               | 5625<br>41-50-70               |                     |
| 36<br>x<br>36<br><br>9.0<br>SQ. FT.  | RETURN<br>FACTORS | —SP=3.6 TP<br>NC + 9   | CFM<br>NC                     | 2700<br>18                    | 3600<br>25                     | 4500<br>31                     | 5400<br>36                     | 6300<br>40                     | 7200<br>44                     | 8100<br>48          |
|                                      |                   |                        |                               | A B                           | A B                            | A B                            | A B                            | A B                            | A B                            | A B                 |
|                                      | 4A                | CFM/SIDE<br>THROW, FT. | 675<br>13-16-22               | 900<br>15-18-25               | 1125<br>17-20-29               | 1350<br>18-22-32               | 1575<br>19-23-34               | 1800<br>22-25-36               | 2025<br>22-28-38               |                     |
|                                      | 3A                | CFM/SIDE<br>THROW, FT. | 675 1010<br>13-16-22 17-22-30 | 900 1350<br>15-18-25 20-24-34 | 1125 1687<br>17-20-29 23-28-39 | 1350 2025<br>18-22-32 24-30-41 | 1575 2362<br>19-23-34 26-32-44 | 1800 2700<br>22-25-36 29-35-47 | 2025 3038<br>22-28-38 31-37-50 |                     |
|                                      | 2S  2G            | CFM/SIDE<br>THROW, FT. | 1350<br>22-25-37              | 1800<br>24-30-42              | 2250<br>28-34-48               | 2700<br>30-36-51               | 3150<br>32-39-56               | 3600<br>34-42-58               | 4050<br>37-44-63               |                     |
|                                      | 1S                | CFM/SIDE<br>THROW, FT. | 2700<br>26-32-45              | 3600<br>31-37-52              | 4500<br>35-42-60               | 5400<br>38-45-64               | 6300<br>40-48-69               | 7200<br>43-51-75               | 8100<br>46-56-79               |                     |

## Performance Data

### Model 6400 • Rectangular Neck

| NOMINAL<br>NECK<br>SIZE             | BLOW<br>PATTERNS                                                                        | NECK VEL.<br>VP<br>TP  | 300<br>.006<br>.029       | 400<br>.010<br>.051        | 500<br>.016<br>.080        | 600<br>.022<br>.116         | 700<br>.031<br>.157         | 800<br>.040<br>.205          | 900<br>.050<br>.260          |
|-------------------------------------|-----------------------------------------------------------------------------------------|------------------------|---------------------------|----------------------------|----------------------------|-----------------------------|-----------------------------|------------------------------|------------------------------|
| 9<br>x<br>6<br><br>.375<br>SQ. FT.  | RETURN<br>FACTORS                                                                       | —SP=1.2 TP<br>NC + 0   | CFM<br>NC                 | 110<br>—                   | 150<br>14                  | 185<br>20                   | 225<br>25                   | 260<br>29                    | 300<br>33                    |
|                                     |  4B    | CFM/SIDE<br>THROW, FT. | 37 18<br>6-9-11 4-5-8     | 50 25<br>8-10-13 5-6-9     | 62 31<br>9-11-15 6-8-10    | 75 37<br>10-12-16 6-8-11    | 87 44<br>10-13-17 8-9-12    | 100 50<br>11-14-18 8-9-12    | 112 56<br>12-15-19 9-10-13   |
|                                     |  3A1   | CFM/SIDE<br>THROW, FT. | 47 18<br>8-9-12 4-5-8     | 62 25<br>9-10-14 5-6-9     | 78 31<br>10-11-16 6-8-10   | 94 37<br>11-12-17 6-8-11    | 109 44<br>12-13-18 8-9-12   | 125 50<br>12-14-19 8-9-12    | 140 56<br>13-15-22 9-10-13   |
|                                     |  3A2   | CFM/SIDE<br>THROW, FT. | 42 35<br>6-9-11 5-6-10    | 55 47<br>8-10-13 6-8-11    | 70 58<br>9-11-15 8-9-12    | 84 70<br>10-12-16 8-10-13   | 98 82<br>10-13-17 9-10-14   | 112 94<br>11-14-18 9-11-15   | 126 105<br>12-15-19 10-12-16 |
|                                     |  2A    | CFM/SIDE<br>THROW, FT. | 56<br>9-11-14             | 75<br>10-12-16             | 93<br>11-14-18             | 112<br>12-15-19             | 131<br>13-16-22             | 150<br>14-17-22              | 168<br>15-18-24              |
|                                     |  2C    | CFM/SIDE<br>THROW, FT. | 75 37<br>9-11-15 6-9-11   | 100 50<br>10-12-17 8-10-13 | 125 62<br>11-14-19 9-11-15 | 150 75<br>12-15-22 10-12-16 | 175 87<br>13-16-22 10-13-19 | 200 100<br>14-17-24 11-14-18 | 225 112<br>15-18-25 12-15-19 |
|                                     |  1A    | CFM/SIDE<br>THROW, FT. | 112<br>11-13-18           | 150<br>13-15-22            | 187<br>15-17-24            | 225<br>16-18-26             | 262<br>17-19-28             | 300<br>18-22-30              | 337<br>19-22-32              |
| 12<br>x<br>6<br><br>.50<br>SQ. FT.  | RETURN<br>FACTORS                                                                       | —SP=1.6 TP<br>NC + 1   | CFM<br>NC                 | 150<br>—                   | 200<br>14                  | 250<br>20                   | 300<br>26                   | 350<br>31                    | 400<br>35                    |
|                                     |  4B    | CFM/SIDE<br>THROW, FT. | 56 18<br>9-11-14 4-5-8    | 75 25<br>10-12-16 5-6-9    | 94 31<br>11-14-18 6-8-10   | 113 37<br>12-15-19 6-8-11   | 131 44<br>13-16-22 8-9-12   | 150 50<br>14-17-22 8-9-12    | 169 56<br>15-18-24 9-10-13   |
|                                     |  3A1   | CFM/SIDE<br>THROW, FT. | 66 18<br>9-11-15 4-5-8    | 87 25<br>10-12-17 5-6-9    | 109 31<br>11-14-19 6-8-10  | 131 37<br>12-15-22 6-8-11   | 153 44<br>13-16-22 8-9-12   | 175 50<br>14-17-24 8-9-12    | 197 56<br>15-18-25 9-10-13   |
|                                     |  3B   | CFM/SIDE<br>THROW, FT. | 75 37<br>6-9-11 6-9-11    | 100 50<br>8-10-13 8-10-13  | 126 62<br>9-11-15 9-11-15  | 150 75<br>10-12-16 10-12-16 | 176 87<br>10-13-17 10-13-17 | 200 100<br>11-14-18 11-14-18 | 226 112<br>12-15-19 12-15-19 |
|                                     |  2A  | CFM/SIDE<br>THROW, FT. | 75<br>9-11-15             | 100<br>10-12-17            | 125<br>11-14-19            | 150<br>12-15-22             | 175<br>13-16-22             | 200<br>14-17-24              | 225<br>15-18-25              |
|                                     |  2C  | CFM/SIDE<br>THROW, FT. | 112 37<br>11-13-18 6-9-11 | 150 50<br>13-15-22 8-10-13 | 188 62<br>15-17-24 9-11-15 | 225 75<br>16-18-26 10-12-16 | 263 87<br>17-19-28 10-13-17 | 300 100<br>18-22-30 11-14-18 | 338 112<br>19-22-32 12-15-19 |
|                                     |  1A  | CFM/SIDE<br>THROW, FT. | 150<br>11-13-18           | 200<br>13-15-22            | 250<br>15-17-24            | 300<br>16-18-26             | 350<br>17-19-28             | 400<br>18-22-30              | 450<br>19-22-32              |
| 15<br>x<br>6<br><br>.625<br>SQ. FT. | RETURN<br>FACTORS                                                                       | —SP=1.9 TP<br>NC + 1   | CFM<br>NC                 | 190<br>—                   | 250<br>15                  | 310<br>21                   | 375<br>27                   | 440<br>32                    | 500<br>36                    |
|                                     |  4B  | CFM/SIDE<br>THROW, FT. | 75 18<br>9-11-15 4-5-8    | 100 25<br>10-12-17 5-6-9   | 125 31<br>11-14-19 6-8-10  | 150 37<br>12-15-22 6-8-11   | 175 44<br>13-16-22 8-9-12   | 200 50<br>14-17-24 8-9-12    | 225 56<br>15-18-25 9-10-13   |
|                                     |  4E  | CFM/SIDE<br>THROW, FT. | 56 37<br>9-11-14 8-9-12   | 75 50<br>10-12-16 9-10-14  | 94 62<br>11-14-18 10-11-16 | 113 75<br>12-15-19 11-12-17 | 131 87<br>13-16-22 12-13-18 | 150 100<br>14-17-22 12-14-19 | 169 112<br>15-18-24 13-15-22 |
|                                     |  3A1 | CFM/SIDE<br>THROW, FT. | 84 18<br>10-11-16 4-5-8   | 112 25<br>11-13-18 5-6-9   | 140 31<br>12-15-20 6-8-10  | 169 37<br>13-16-22 6-8-11   | 197 44<br>14-17-23 8-9-12   | 225 50<br>15-18-25 8-9-12    | 253 56<br>16-19-28 9-10-13   |
|                                     |  2A  | CFM/SIDE<br>THROW, FT. | 94<br>10-12-17            | 125<br>11-14-19            | 156<br>12-16-22            | 187<br>13-17-23             | 219<br>14-18-25             | 250<br>15-19-26              | 281<br>16-22-29              |
|                                     |  2C  | CFM/SIDE<br>THROW, FT. | 150 37<br>11-13-18 6-9-11 | 200 50<br>13-15-22 8-10-13 | 250 62<br>15-17-24 9-11-15 | 300 75<br>16-18-26 10-12-16 | 350 87<br>17-19-28 10-13-17 | 400 100<br>18-22-30 11-14-18 | 450 112<br>19-22-32 12-15-19 |
|                                     |  1A  | CFM/SIDE<br>THROW, FT. | 188<br>12-15-20           | 250<br>14-17-23            | 312<br>16-19-26            | 375<br>17-22-29             | 438<br>18-22-31             | 500<br>19-24-33              | 563<br>22-25-35              |

#### Notes:

- Core style 4E is sized to give equal flow as near as possible in directions A and B.
  - For core styles 1A, 1B, 2A and 2B, the "A" direction is shown. Throw correction factor for "B" direction is:  $A \times .82 = B$ .
- For performance notes, see page D60.

## Performance Data

### Model 6400 • Rectangular Neck

| NOMINAL<br>NECK<br>SIZE             | BLOW<br>PATTERNS                       | NECK VEL.<br>VP<br>TP  | 300<br>.006<br>.029       | 400<br>.010<br>.051          | 500<br>.016<br>.080          | 600<br>.022<br>.116          | 700<br>.031<br>.157          | 800<br>.040<br>.205          | 900<br>.050<br>.260          |
|-------------------------------------|----------------------------------------|------------------------|---------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 18<br>x<br>6<br><br>.75<br>SQ. FT.  | RETURN<br>FACTORS —SP=2.6 TP<br>NC + 2 | CFM<br>NC              | 225<br>—                  | 300<br>16                    | 375<br>22                    | 450<br>28                    | 525<br>33                    | 600<br>37                    | 675<br>41                    |
|                                     | 4B  A  C 4C                            | CFM/SIDE<br>THROW, FT. | 94 18<br>10-12-17 4-5-8   | 125 25<br>11-14-19 5-6-9     | 156 31<br>12-16-21 6-8-10    | 188 37<br>13-17-23 6-8-11    | 218 44<br>14-18-25 8-9-12    | 250 50<br>15-19-26 8-9-12    | 281 56<br>16-22-29 9-10-13   |
|                                     | 4E                                     | CFM/SIDE<br>THROW, FT. | 56 56<br>9-11-14 9-11-14  | 75 75<br>10-12-16 10-12-16   | 94 94<br>11-14-18 11-14-18   | 113 113<br>12-15-19 12-15-19 | 131 131<br>13-16-22 13-16-22 | 150 150<br>14-17-22 14-17-22 | 169 169<br>15-18-24 15-18-24 |
|                                     | 3A1                                    | CFM/SIDE<br>THROW, FT. | 103 18<br>10-12-17 4-5-8  | 137 25<br>11-14-19 5-6-9     | 172 31<br>12-16-21 6-8-10    | 206 37<br>13-17-23 6-8-11    | 240 44<br>14-18-25 8-9-12    | 275 50<br>15-19-26 8-9-12    | 309 56<br>16-22-29 9-10-1    |
|                                     | 2A<br>2B                               | CFM/SIDE<br>THROW, FT. | 112<br>11-13-18           | 150<br>13-15-22              | 187<br>15-17-24              | 225<br>16-18-26              | 262<br>17-19-28              | 300<br>18-22-30              | 337<br>19-22-32              |
|                                     | 2C  2E  2D<br>2F                       | CFM/SIDE<br>THROW, FT. | 187 37<br>12-15-20 6-9-11 | 250 50<br>14-17-23 8-10-13   | 313 62<br>16-19-26 9-11-15   | 375 75<br>17-22-29 10-12-16  | 438 87<br>18-22-31 10-13-17  | 500 100<br>19-24-33 11-14-18 | 563 112<br>22-25-35 12-15-19 |
|                                     | 1A<br>1B                               | CFM/SIDE<br>THROW, FT. | 225<br>13-16-22           | 300<br>15-18-25              | 375<br>17-20-29              | 450<br>18-22-32              | 525<br>19-23-34              | 600<br>20-25-36              | 675<br>21-27-37              |
| 21<br>x<br>6<br><br>.875<br>SQ. FT. | RETURN<br>FACTORS —SP=3.2 TP<br>NC + 3 | CFM<br>NC              | 260<br>—                  | 350<br>16                    | 435<br>22                    | 525<br>29                    | 610<br>33                    | 700<br>38                    | 785<br>41                    |
|                                     | 4B  A  C 4C                            | CFM/SIDE<br>THROW, FT. | 112 18<br>11-13-18 4-5-8  | 150 25<br>13-15-22 5-6-9     | 187 31<br>15-17-24 6-8-10    | 225 37<br>16-18-26 6-8-11    | 262 44<br>17-19-28 8-9-12    | 300 50<br>18-22-30 8-9-12    | 337 56<br>19-22-32 9-10-13   |
|                                     | 4E                                     | CFM/SIDE<br>THROW, FT. | 75 56<br>9-11-15 9-11-14  | 100 75<br>10-12-17 10-12-16  | 125 94<br>11-14-19 11-14-18  | 150 113<br>12-15-22 12-15-19 | 175 131<br>13-16-22 13-16-22 | 200 150<br>14-17-24 14-17-22 | 225 169<br>15-18-25 15-18-24 |
|                                     | 3A1                                    | CFM/SIDE<br>THROW, FT. | 122 18<br>11-13-18 4-5-8  | 162 25<br>13-15-22 5-6-9     | 203 31<br>15-17-24 6-8-10    | 244 37<br>16-18-26 6-8-11    | 284 44<br>17-19-28 8-9-12    | 325 50<br>18-22-30 8-9-12    | 365 56<br>19-22-32 9-10-13   |
|                                     | 2A<br>2B                               | CFM/SIDE<br>THROW, FT. | 131<br>11-13-18           | 175<br>13-15-22              | 218<br>15-17-24              | 262<br>16-18-26              | 306<br>17-19-28              | 350<br>18-22-30              | 393<br>19-22-32              |
|                                     | 2C  2E  2D<br>2F                       | CFM/SIDE<br>THROW, FT. | 225 37<br>13-16-22 6-9-11 | 300 50<br>15-18-25 8-10-13   | 375 62<br>17-20-29 9-11-15   | 450 75<br>18-22-32 10-12-16  | 525 87<br>19-23-34 10-13-17  | 600 100<br>22-25-36 11-14-18 | 675 112<br>22-28-38 12-15-19 |
|                                     | 1A<br>1B                               | CFM/SIDE<br>THROW, FT. | 262<br>13-16-22           | 350<br>15-18-25              | 437<br>17-20-29              | 525<br>18-22-32              | 612<br>19-23-34              | 700<br>22-25-36              | 787<br>22-28-38              |
| 24<br>x<br>6<br><br>1.0<br>SQ. FT.  | RETURN<br>FACTORS —SP=3.9 TP<br>NC + 4 | CFM<br>NC              | 300<br>—                  | 400<br>16                    | 500<br>23                    | 600<br>30                    | 700<br>34                    | 800<br>39                    | 900<br>42                    |
|                                     | 4B  A  C 4C                            | CFM/SIDE<br>THROW, FT. | 131 18<br>11-13-18 4-5-8  | 175 25<br>13-15-22 5-6-9     | 219 31<br>15-17-24 6-8-10    | 263 37<br>16-18-26 6-8-11    | 306 44<br>17-19-28 8-9-12    | 350 50<br>18-22-30 8-9-12    | 394 56<br>19-22-32 9-10-13   |
|                                     | 4E                                     | CFM/SIDE<br>THROW, FT. | 75 75<br>9-11-15 9-11-15  | 100 100<br>10-12-17 10-12-17 | 125 125<br>11-14-19 11-14-19 | 150 150<br>12-15-22 12-15-22 | 175 175<br>13-16-22 13-16-22 | 200 200<br>14-17-24 14-17-24 | 225 225<br>15-18-25 15-18-25 |
|                                     | 3A1                                    | CFM/SIDE<br>THROW, FT. | 141 18<br>11-13-18 4-5-8  | 187 25<br>13-15-22 5-6-9     | 234 31<br>15-17-24 6-8-10    | 281 37<br>16-18-26 6-8-11    | 328 44<br>17-19-28 8-9-12    | 375 50<br>18-22-30 8-9-12    | 422 56<br>19-22-32 9-10-13   |
|                                     | 2A<br>2B                               | CFM/SIDE<br>THROW, FT. | 150<br>11-13-18           | 200<br>13-15-22              | 250<br>15-17-24              | 300<br>16-18-26              | 350<br>17-19-28              | 400<br>18-22-30              | 450<br>19-22-32              |
|                                     | 2C  2E  2D<br>2F                       | CFM/SIDE<br>THROW, FT. | 260 37<br>13-16-22 6-9-11 | 350 50<br>15-18-25 8-10-13   | 438 62<br>17-20-29 9-11-15   | 525 75<br>18-22-32 10-12-16  | 613 87<br>19-23-34 10-13-17  | 700 100<br>22-25-36 11-14-18 | 788 112<br>22-28-38 12-15-19 |
|                                     | 1A<br>1B                               | CFM/SIDE<br>THROW, FT. | 300<br>14-17-24           | 400<br>16-19-28              | 500<br>18-22-32              | 600<br>19-23-34              | 700<br>22-25-36              | 800<br>22-26-39              | 900<br>24-29-41              |

#### Notes:

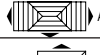
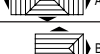
- Core style 4E is sized to give equal flow as near as possible in directions A and B.
- For core styles 1A, 1B, 2A and 2B, the "A" direction is shown. Throw correction factor for "B" direction is:  $A \times .82 = B$ .

For performance notes, see page D60.



## Performance Data

### Model 6400 • Rectangular Neck

| NOMINAL<br>NECK<br>SIZE             | BLOW<br>PATTERNS                                                                                                                                                              | NECK VEL.<br>VP<br>TP  | 300<br>.006<br>.029        | 400<br>.010<br>.051          | 500<br>.016<br>.080          | 600<br>.022<br>.116          | 700<br>.031<br>.157          | 800<br>.040<br>.205          | 900<br>.050<br>.260           |
|-------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|----------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|-------------------------------|
| 30<br>x<br>6<br><br>1.25<br>SQ. FT. | RETURN<br>FACTORS —SP=3.2 TP<br>NC + 3                                                                                                                                        | CFM<br>NC              | 375<br>—                   | 500<br>17                    | 625<br>24                    | 750<br>30                    | 875<br>35                    | 1000<br>40                   | 1125<br>43                    |
|                                     |  4B  4C     | CFM/SIDE<br>THROW, FT. | 169 18<br>12-15-20 4-5-8   | 225 25<br>14-17-23 5-6-9     | 281 31<br>16-19-26 6-8-10    | 338 37<br>17-22-29 6-8-11    | 393 44<br>18-22-31 8-9-12    | 450 50<br>19-24-33 8-9-12    | 506 56<br>21-25-35 9-10-13    |
|                                     |  4E                                                                                          | CFM/SIDE<br>THROW, FT. | 94 94<br>10-12-17 10-12-17 | 125 125<br>11-14-19 11-14-19 | 156 156<br>12-16-22 12-16-22 | 188 188<br>13-17-23 13-17-23 | 219 219<br>14-18-25 14-18-25 | 250 250<br>15-19-26 15-19-26 | 282 282<br>16-22-29 16-22-29  |
|                                     |  3A1                                                                                         | CFM/SIDE<br>THROW, FT. | 178 18<br>12-15-20 4-5-8   | 237 25<br>14-17-23 5-6-9     | 297 31<br>16-19-26 6-8-10    | 356 37<br>17-22-29 6-8-11    | 415 44<br>18-22-31 8-9-12    | 475 50<br>19-24-33 8-9-12    | 534 56<br>21-25-35 9-10-13    |
|                                     |  2A                                                                                          | CFM/SIDE<br>THROW, FT. | 187<br>12-15-20            | 250<br>14-17-23              | 312<br>16-19-26              | 375<br>17-22-29              | 437<br>18-22-31              | 500<br>19-24-33              | 562<br>21-25-35               |
|                                     |  2C  2D     | CFM/SIDE<br>THROW, FT. | 337 37<br>14-17-24 6-9-11  | 450 50<br>16-19-28 8-10-13   | 563 62<br>18-22-32 9-11-15   | 675 75<br>19-23-34 10-12-16  | 788 87<br>22-25-36 10-13-17  | 900 100<br>22-26-39 11-14-18 | 1013 112<br>24-29-41 12-15-19 |
|                                     |  1A                                                                                          | CFM/SIDE<br>THROW, FT. | 375<br>15-18-25            | 500<br>17-22-30              | 625<br>19-24-34              | 750<br>22-26-36              | 875<br>22-28-39              | 1000<br>24-30-42             | 1125<br>25-32-44              |
| 12<br>x<br>9<br><br>.75<br>SQ. FT.  | RETURN<br>FACTORS —SP=3.9 TP<br>NC + 4                                                                                                                                        | CFM<br>NC              | 225<br>—                   | 300<br>17                    | 375<br>23                    | 450<br>28                    | 525<br>33                    | 600<br>36                    | 675<br>40                     |
|                                     |  4B  4C     | CFM/SIDE<br>THROW, FT. | 70 42<br>8-10-13 5-6-10    | 94 56<br>9-11-15 6-8-11      | 117 70<br>10-12-17 8-9-12    | 141 84<br>11-13-18 8-10-13   | 164 98<br>12-14-19 9-10-14   | 188 112<br>12-15-22 9-11-15  | 211 126<br>13-16-22 10-12-16  |
|                                     |  3A1                                                                                         | CFM/SIDE<br>THROW, FT. | 91 42<br>10-12-17 5-6-10   | 121 56<br>11-14-19 6-8-11    | 152 70<br>12-16-22 8-9-12    | 183 84<br>13-17-23 8-10-13   | 213 98<br>14-18-25 9-10-14   | 244 112<br>15-19-26 9-11-15  | 274 126<br>16-22-29 10-12-16  |
|                                     |  3A2                                                                                        | CFM/SIDE<br>THROW, FT. | 75 75<br>9-11-14 9-11-14   | 100 100<br>10-12-16 10-12-16 | 125 125<br>11-14-18 11-14-18 | 150 150<br>12-15-19 12-15-19 | 175 175<br>13-16-22 13-16-22 | 200 200<br>14-17-22 14-17-22 | 225 225<br>15-18-24 15-18-24  |
|                                     |  2A                                                                                        | CFM/SIDE<br>THROW, FT. | 112<br>11-13-18            | 150<br>13-15-22              | 187<br>15-17-24              | 225<br>16-18-26              | 262<br>17-19-28              | 300<br>18-22-30              | 337<br>19-22-32               |
|                                     |  2C  2D | CFM/SIDE<br>THROW, FT. | 141 84<br>11-13-18 9-11-14 | 188 112<br>13-15-22 10-12-16 | 234 141<br>15-17-24 11-14-18 | 281 169<br>16-18-26 12-15-19 | 328 197<br>17-19-28 13-16-22 | 375 225<br>18-22-30 14-17-22 | 422 253<br>19-22-32 15-18-24  |
|                                     |  1A                                                                                        | CFM/SIDE<br>THROW, FT. | 225<br>13-16-22            | 300<br>15-18-25              | 375<br>17-20-29              | 450<br>18-22-32              | 525<br>19-23-34              | 600<br>22-25-36              | 675<br>22-28-38               |
| 15<br>x<br>9<br><br>.93<br>SQ. FT.  | RETURN<br>FACTORS —SP=1.7 TP<br>NC + 3                                                                                                                                        | CFM<br>NC              | 280<br>—                   | 375<br>18                    | 470<br>24                    | 565<br>29                    | 655<br>34                    | 750<br>37                    | 845<br>41                     |
|                                     |  4B  4C | CFM/SIDE<br>THROW, FT. | 98 42<br>10-12-17 5-6-10   | 131 56<br>11-14-19 6-8-11    | 165 70<br>12-16-22 8-9-12    | 198 84<br>13-17-23 8-10-13   | 230 98<br>14-18-25 9-10-14   | 263 112<br>15-19-26 9-11-15  | 296 126<br>16-22-29 10-12-16  |
|                                     |  4E                                                                                        | CFM/SIDE<br>THROW, FT. | 70 70<br>9-11-15 9-11-15   | 94 94<br>10-12-17 10-12-17   | 117 117<br>11-14-19 11-14-19 | 141 141<br>12-15-22 12-15-22 | 164 164<br>13-16-22 13-16-22 | 188 188<br>14-17-24 14-17-24 | 211 211<br>15-18-25 15-18-25  |
|                                     |  3A1                                                                                       | CFM/SIDE<br>THROW, FT. | 120 42<br>11-13-18 5-6-10  | 159 56<br>13-15-22 6-8-11    | 200 70<br>15-17-24 8-9-12    | 240 84<br>16-18-26 8-10-13   | 279 98<br>17-19-28 9-10-14   | 319 112<br>18-22-30 9-11-15  | 359 126<br>19-22-32 10-12-16  |
|                                     |  3A2                                                                                       | CFM/SIDE<br>THROW, FT. | 117 82<br>10-11-16 8-10-13 | 155 110<br>11-13-18 9-11-15  | 196 137<br>12-15-20 10-12-17 | 233 165<br>13-16-22 11-13-18 | 272 192<br>14-17-23 12-14-19 | 312 219<br>15-18-25 12-15-22 | 351 247<br>16-19-28 13-16-22  |
|                                     |  2A                                                                                        | CFM/SIDE<br>THROW, FT. | 140<br>11-13-18            | 187<br>13-15-22              | 235<br>15-17-24              | 281<br>16-18-26              | 328<br>17-19-28              | 375<br>18-22-30              | 422<br>19-22-32               |
|                                     |  2C  2D | CFM/SIDE<br>THROW, FT. | 197 84<br>12-15-20 9-11-14 | 263 112<br>14-17-23 10-12-16 | 329 141<br>16-19-26 11-14-18 | 394 169<br>17-22-29 12-15-19 | 459 197<br>18-22-31 13-16-22 | 525 225<br>19-24-33 14-17-22 | 592 253<br>22-25-35 15-18-24  |
|                                     |  1A                                                                                        | CFM/SIDE<br>THROW, FT. | 281<br>14-17-24            | 375<br>16-19-28              | 470<br>18-22-32              | 563<br>19-23-34              | 656<br>22-25-36              | 750<br>22-26-39              | 845<br>24-29-41               |

#### Notes:

- Core style 4E is sized to give equal flow as near as possible in directions A and B.
- For core styles 1A, 1B, 2A and 2B, the "A" direction is shown. Throw correction factor for "B" direction is:  $A \times .82 = B$ .

For performance notes, see page D60.

D

CEILING DIFFUSERS

## Performance Data

### Model 6400 • Rectangular Neck

| NOMINAL<br>NECK<br>SIZE              | BLOW<br>PATTERNS                    | NECK VEL.<br>VP<br>TP  | 300<br>.006<br>.029         | 400<br>.010<br>.051          | 500<br>.016<br>.080          | 600<br>.022<br>.116          | 700<br>.031<br>.157          | 800<br>.040<br>.205          | 900<br>.050<br>.260           |
|--------------------------------------|-------------------------------------|------------------------|-----------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|-------------------------------|
| 18<br>x<br>9<br><br>1.125<br>SQ. FT. | RETURN FACTORS —SP=2.1 TP<br>NC + 3 | CFM<br>NC              | 335<br>—                    | 450<br>19                    | 560<br>25                    | 675<br>30                    | 790<br>35                    | 900<br>38                    | 1010<br>42                    |
|                                      | 4B  4C                              | CFM/SIDE<br>THROW, FT. | 126 42<br>11-13-18 5-6-10   | 169 56<br>13-15-22 6-8-11    | 211 70<br>15-17-24 8-9-12    | 254 84<br>16-18-26 8-10-13   | 296 98<br>17-19-28 9-10-14   | 338 112<br>18-22-30 9-11-15  | 380 126<br>19-22-32 10-12-16  |
|                                      | 4E                                  | CFM/SIDE<br>THROW, FT. | 99 70<br>10-12-17 9-11-15   | 132 94<br>11-14-19 10-12-17  | 164 117<br>12-16-22 11-14-19 | 197 141<br>13-17-23 12-15-22 | 230 164<br>14-18-25 13-16-22 | 263 188<br>15-19-26 14-17-24 | 296 211<br>16-22-29 15-18-25  |
|                                      | 3A1                                 | CFM/SIDE<br>THROW, FT. | 147 42<br>11-13-18 5-6-10   | 197 56<br>13-15-22 6-8-11    | 246 70<br>15-17-24 8-9-12    | 295 84<br>16-18-26 8-10-13   | 345 98<br>17-19-28 9-10-14   | 394 112<br>18-22-30 9-11-15  | 443 126<br>19-22-32 10-12-16  |
|                                      | 3B                                  | CFM/SIDE<br>THROW, FT. | 168 84<br>9-11-15 9-11-14   | 225 112<br>10-12-17 10-12-16 | 281 141<br>11-14-19 11-14-18 | 337 169<br>12-15-22 12-15-19 | 394 197<br>13-16-22 13-16-22 | 450 225<br>14-17-24 14-17-22 | 506 253<br>15-18-25 15-18-24  |
|                                      | 2A<br>2B                            | CFM/SIDE<br>THROW, FT. | 163<br>12-15-20             | 225<br>14-17-23              | 281<br>16-19-26              | 337<br>17-22-29              | 394<br>18-22-31              | 450<br>19-24-33              | 506<br>22-25-35               |
|                                      | 2C  2E  2D  2F                      | CFM/SIDE<br>THROW, FT. | 253 84<br>13-16-22 9-11-14  | 338 112<br>15-18-25 10-12-16 | 421 141<br>17-20-29 11-14-18 | 506 169<br>18-22-32 12-15-19 | 591 197<br>19-23-34 13-16-22 | 675 225<br>22-25-36 14-17-22 | 759 253<br>22-28-38 15-18-24  |
|                                      | 1A  1B                              | CFM/SIDE<br>THROW, FT. | 337<br>14-17-24             | 450<br>16-19-28              | 562<br>18-22-32              | 675<br>19-23-34              | 788<br>22-25-36              | 900<br>22-26-39              | 1012<br>24-29-41              |
|                                      | RETURN FACTORS —SP=2.5 TP<br>NC + 4 | CFM<br>NC              | 395<br>—                    | 525<br>19                    | 655<br>25                    | 785<br>31                    | 915<br>36                    | 1050<br>38                   | 1180<br>42                    |
|                                      | 4B  4C                              | CFM/SIDE<br>THROW, FT. | 154 42<br>12-15-20 5-6-10   | 206 56<br>14-17-23 6-8-11    | 258 70<br>16-19-26 8-9-12    | 309 84<br>17-22-29 8-10-13   | 360 98<br>18-22-31 9-10-14   | 413 112<br>19-24-33 9-11-15  | 464 126<br>22-25-35 10-12-16  |
| 21<br>x<br>9<br><br>1.125<br>SQ. FT. | 4E                                  | CFM/SIDE<br>THROW, FT. | 98 98<br>10-12-17 10-12-17  | 131 131<br>11-14-19 11-14-19 | 163 163<br>12-16-22 12-16-22 | 196 196<br>13-17-23 13-17-23 | 229 229<br>14-18-25 14-18-25 | 261 261<br>15-19-26 15-19-26 | 294 294<br>16-22-29 16-22-29  |
|                                      | 3A1                                 | CFM/SIDE<br>THROW, FT. | 175 42<br>12-15-20 5-6-10   | 234 56<br>14-17-23 6-8-11    | 292 70<br>16-19-26 8-9-12    | 351 84<br>17-22-29 8-10-13   | 410 98<br>18-22-31 9-10-14   | 468 112<br>19-24-33 9-11-15  | 527 126<br>22-25-35 10-12-16  |
|                                      | 2A<br>2B                            | CFM/SIDE<br>THROW, FT. | 196<br>12-15-20             | 262<br>14-17-23              | 327<br>16-19-26              | 393<br>17-22-29              | 458<br>18-22-31              | 525<br>19-24-33              | 590<br>22-25-35               |
|                                      | 2C  2E  2D  2F                      | CFM/SIDE<br>THROW, FT. | 308 84<br>14-17-24 9-11-14  | 412 112<br>16-19-28 10-12-16 | 514 141<br>18-22-32 11-14-18 | 617 169<br>19-23-34 12-15-19 | 720 197<br>22-25-36 13-16-22 | 825 225<br>22-26-39 14-17-22 | 927 253<br>24-29-41 15-18-24  |
|                                      | 1A  1B                              | CFM/SIDE<br>THROW, FT. | 393<br>15-18-25             | 524<br>17-22-30              | 655<br>19-24-34              | 786<br>22-26-36              | 917<br>22-28-39              | 1050<br>24-30-42             | 1180<br>25-32-44              |
|                                      | RETURN FACTORS —SP=2.9 TP<br>NC + 4 | CFM<br>NC              | 450<br>—                    | 600<br>19                    | 750<br>25                    | 900<br>31                    | 1050<br>36                   | 1200<br>38                   | 1350<br>43                    |
|                                      | 4B  4C                              | CFM/SIDE<br>THROW, FT. | 183 42<br>12-15-20 5-6-10   | 244 56<br>14-17-23 6-8-11    | 305 70<br>16-19-26 8-9-12    | 366 84<br>17-22-29 8-10-13   | 427 98<br>18-22-31 9-10-14   | 488 112<br>19-24-33 9-11-15  | 549 126<br>22-25-35 10-12-16  |
|                                      | 4E                                  | CFM/SIDE<br>THROW, FT. | 126 99<br>11-13-18 10-12-17 | 169 132<br>13-15-22 11-14-19 | 211 164<br>15-17-24 12-16-22 | 253 197<br>16-18-26 13-17-23 | 295 230<br>17-19-28 14-18-25 | 337 263<br>18-22-30 15-19-26 | 379 296<br>19-22-32 16-22-29  |
|                                      | 3A1                                 | CFM/SIDE<br>THROW, FT. | 204 42<br>12-15-20 5-6-10   | 272 56<br>14-17-23 6-8-11    | 340 70<br>16-19-26 8-9-12    | 408 84<br>17-22-29 8-10-13   | 476 98<br>18-22-31 9-10-14   | 544 112<br>19-24-33 9-11-15  | 612 126<br>22-25-35 10-12-16  |
|                                      | 2A<br>2B                            | CFM/SIDE<br>THROW, FT. | 225<br>13-16-22             | 300<br>15-18-25              | 375<br>17-20-29              | 450<br>18-22-32              | 525<br>19-23-34              | 600<br>22-25-36              | 675<br>22-28-38               |
| 24<br>x<br>9<br><br>1.5<br>SQ. FT.   | 2C  2E  2D  2F                      | CFM/SIDE<br>THROW, FT. | 365 84<br>15-18-25 9-11-14  | 488 112<br>17-22-30 10-12-16 | 609 141<br>19-24-34 11-14-18 | 731 169<br>22-26-36 12-15-19 | 853 197<br>22-28-39 13-16-22 | 975 225<br>24-30-42 14-17-22 | 1097 253<br>25-32-44 15-18-24 |
|                                      | 1A  1B                              | CFM/SIDE<br>THROW, FT. | 450<br>15-18-25             | 600<br>17-22-30              | 750<br>19-24-34              | 900<br>22-26-36              | 1050<br>22-28-39             | 1200<br>24-30-42             | 1350<br>25-32-44              |

#### Notes:

- Core style 4E is sized to give equal flow as near as possible in directions A and B.
- For core styles 1A, 1B, 2A and 2B, the "A" direction is shown. Throw correction factor for "B" direction is:  $A \times .82 = B$ .

For performance notes, see page D60.

## Performance Data

### Model 6400 • Rectangular Neck

| NOMINAL<br>NECK<br>SIZE              | BLOW<br>PATTERNS                 | NECK VEL.<br>VP<br>TP  | 300<br>.006<br>.029              | 400<br>.010<br>.051                | 500<br>.016<br>.080                | 600<br>.022<br>.116                 | 700<br>.031<br>.157                 | 800<br>.040<br>.205                 | 900<br>.050<br>.260                 |
|--------------------------------------|----------------------------------|------------------------|----------------------------------|------------------------------------|------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| 30<br>x<br>9<br><br>1.875<br>SQ. FT. | RETURN FACTORS —SP=3.9 TP NC + 5 | CFM NC                 | 560<br>—                         | 750<br>20                          | 935<br>26                          | 1125<br>32                          | 1310<br>37                          | 1500<br>39                          | 1685<br>44                          |
|                                      | 4B  4C                           | CFM/SIDE<br>THROW, FT. | A B<br>238 42<br>13-16-22 5-6-10 | A B<br>319 56<br>15-18-25 6-8-11   | A B<br>398 70<br>17-20-29 8-9-12   | A B<br>478 84<br>18-22-32 8-10-13   | A B<br>557 98<br>19-23-34 9-10-14   | A B<br>638 112<br>22-25-36 9-11-15  | A B<br>716 126<br>22-28-38 10-12-16 |
|                                      | 4E                               | CFM/SIDE<br>THROW, FT. | 155 126<br>12-15-20 11-13-18     | 206 169<br>14-17-23 13-15-22       | 258 211<br>16-19-26 15-17-24       | 310 253<br>17-22-29 16-18-26        | 361 295<br>18-22-30 17-19-28        | 413 337<br>19-24-33 18-22-30        | 465 379<br>22-25-35 19-22-32        |
|                                      | 3A1                              | CFM/SIDE<br>THROW, FT. | 259 42<br>13-16-22 5-6-10        | 347 56<br>15-18-25 6-8-11          | 433 70<br>17-20-29 8-9-12          | 520 84<br>18-22-32 8-10-13          | 606 98<br>19-23-34 9-10-14          | 694 112<br>22-25-36 9-11-15         | 779 126<br>22-28-38 10-12-16        |
|                                      | 2A  2B                           | CFM/SIDE<br>THROW, FT. | 281<br>14-17-24                  | 375<br>16-19-28                    | 468<br>18-22-32                    | 562<br>19-23-34                     | 655<br>22-25-36                     | 750<br>22-26-39                     | 842<br>24-29-41                     |
|                                      | 2C  2D  2E  2F                   | CFM/SIDE<br>THROW, FT. | 476 84<br>16-19-28 9-11-14       | 638 112<br>18-22-32 10-12-16       | 796 141<br>20-25-36 11-14-18       | 956 169<br>22-28-39 12-15-19        | 1113 197<br>23-30-42 13-16-22       | 1275 225<br>25-32-44 14-17-22       | 1432 253<br>28-34-47 15-18-24       |
|                                      | 1A  1B                           | CFM/SIDE<br>THROW, FT. | 562<br>16-19-28                  | 750<br>18-22-32                    | 937<br>20-25-36                    | 1125<br>22-28-39                    | 1310<br>23-30-42                    | 1500<br>25-32-44                    | 1685<br>28-34-47                    |
| 36<br>x<br>9<br><br>2.25<br>SQ. FT.  | RETURN FACTORS —SP=5.0 TP NC + 6 | CFM NC                 | 675<br>—                         | 900<br>21                          | 1125<br>27                         | 1350<br>33                          | 1575<br>38                          | 1800<br>40                          | 2025<br>44                          |
|                                      | 4B  4C                           | CFM/SIDE<br>THROW, FT. | A B<br>295 42<br>14-17-24 5-6-10 | A B<br>394 56<br>16-19-28 6-8-11   | A B<br>492 70<br>18-22-32 8-9-12   | A B<br>591 84<br>19-23-34 8-10-13   | A B<br>689 98<br>22-25-36 9-10-14   | A B<br>788 112<br>22-26-39 9-11-15  | A B<br>886 126<br>24-29-41 10-12-16 |
|                                      | 4E                               | CFM/SIDE<br>THROW, FT. | 183 155<br>12-15-20 12-15-20     | 244 206<br>14-17-23 14-17-23       | 305 258<br>16-19-26 16-19-26       | 366 310<br>17-22-29 17-22-29        | 427 361<br>18-22-31 18-22-31        | 488 413<br>19-24-33 19-24-33        | 549 465<br>22-25-35 22-25-35        |
|                                      | 3A1                              | CFM/SIDE<br>THROW, FT. | 316 42<br>14-17-24 5-6-10        | 422 56<br>16-19-28 6-8-11          | 527 70<br>18-22-32 8-9-12          | 633 84<br>19-23-34 8-10-13          | 738 98<br>22-25-36 9-10-14          | 844 112<br>22-26-39 9-11-15         | 949 126<br>24-29-41 10-12-16        |
|                                      | 2A  2B                           | CFM/SIDE<br>THROW, FT. | 337<br>14-17-24                  | 450<br>16-19-28                    | 562<br>18-22-32                    | 675<br>19-23-34                     | 787<br>22-25-36                     | 900<br>22-26-39                     | 1012<br>24-29-41                    |
|                                      | 2C  2D  2E  2F                   | CFM/SIDE<br>THROW, FT. | 590 84<br>17-22-30 9-11-14       | 788 112<br>20-24-34 10-12-16       | 984 141<br>23-28-39 11-14-18       | 1181 169<br>24-30-41 12-15-19       | 1378 197<br>26-32-44 13-16-22       | 1575 225<br>29-35-47 14-17-22       | 1772 253<br>31-37-50 15-18-24       |
|                                      | 1A  1B                           | CFM/SIDE<br>THROW, FT. | 675<br>17-22-30                  | 900<br>20-24-34                    | 1125<br>23-28-39                   | 1350<br>24-30-41                    | 1575<br>26-32-44                    | 1800<br>29-35-47                    | 2025<br>31-37-50                    |
| 15<br>x<br>12<br><br>1.25<br>SQ. FT. | RETURN FACTORS —SP=1.6 TP NC + 2 | CFM NC                 | 375<br>—                         | 500<br>19                          | 625<br>25                          | 750<br>30                           | 875<br>34                           | 1000<br>38                          | 1125<br>41                          |
|                                      | 4B  4C                           | CFM/SIDE<br>THROW, FT. | A B<br>112 75<br>9-11-15 6-9-11  | A B<br>150 100<br>10-12-17 8-10-13 | A B<br>187 125<br>11-14-19 9-11-15 | A B<br>225 150<br>12-15-22 10-12-16 | A B<br>262 175<br>13-16-22 10-13-17 | A B<br>300 200<br>14-17-24 11-14-18 | A B<br>337 225<br>15-18-25 12-15-19 |
|                                      | 3A1                              | CFM/SIDE<br>THROW, FT. | 150 75<br>11-13-18 6-9-11        | 200 100<br>13-15-22 8-10-13        | 250 125<br>15-17-24 9-11-15        | 300 150<br>16-18-26 10-12-16        | 350 175<br>17-19-28 10-13-17        | 400 200<br>18-22-30 11-14-18        | 450 225<br>19-22-32 12-15-19        |
|                                      | 3A2                              | CFM/SIDE<br>THROW, FT. | 117 129<br>8-10-13 10-11-16      | 156 172<br>9-11-15 11-13-18        | 195 215<br>10-12-17 12-15-20       | 234 258<br>11-13-18 13-16-22        | 273 301<br>12-14-19 14-17-23        | 312 344<br>12-15-22 15-18-25        | 351 387<br>13-16-22 16-19-28        |
|                                      | 2A  2B                           | CFM/SIDE<br>THROW, FT. | 187<br>12-15-20                  | 250<br>14-17-23                    | 312<br>16-19-26                    | 375<br>17-22-29                     | 437<br>18-22-31                     | 500<br>19-24-33                     | 567<br>22-25-35                     |
|                                      | 2C  2D  2E  2F                   | CFM/SIDE<br>THROW, FT. | 225 150<br>13-16-22 10-12-17     | 300 200<br>15-18-25 11-14-19       | 375 250<br>17-20-29 12-16-22       | 450 300<br>18-22-32 13-17-23        | 525 350<br>19-23-34 14-18-25        | 600 400<br>22-25-36 15-19-26        | 675 450<br>22-28-38 16-22-29        |
|                                      | 1A  1B                           | CFM/SIDE<br>THROW, FT. | 375<br>15-18-25                  | 500<br>17-22-30                    | 625<br>19-24-34                    | 750<br>22-26-36                     | 875<br>22-28-39                     | 1000<br>24-30-42                    | 1125<br>25-32-44                    |

#### Notes:

- Core style 4E is sized to give equal flow as near as possible in directions A and B.
- For core styles 1A, 1B, 2A and 2B, the "A" direction is shown. Throw correction factor for "B" direction is: A x .82 = B.

For performance notes, see page D60.

D

CEILING DIFFUSERS

## Performance Data

### Model 6400 • Rectangular Neck

| NOMINAL<br>NECK<br>SIZE                                                                | BLOW<br>PATTERNS                                                                        |                                                                                        | NECK VEL.<br>VP<br>TP  | 300<br>.006<br>.029          | 400<br>.010<br>.051          | 500<br>.016<br>.080          | 600<br>.022<br>.116          | 700<br>.031<br>.157           | 800<br>.040<br>.205           | 900<br>.050<br>.260           |
|----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|------------------------|------------------------------|------------------------------|------------------------------|------------------------------|-------------------------------|-------------------------------|-------------------------------|
| 18<br>x<br>12<br><br>1.5<br>SQ. FT.                                                    | RETURN<br>FACTORS                                                                       | —SP=1.9 TP<br>NC + 3                                                                   | CFM<br>NC              | 450<br>—                     | 600<br>20                    | 750<br>26                    | 900<br>31                    | 1050<br>35                    | 1200<br>39                    | 1350<br>42                    |
|                                                                                        |  4B    |  4C   | CFM/SIDE<br>THROW, FT. | 150 75<br>11-13-18 6-9-11    | 200 100<br>13-15-22 8-10-13  | 250 125<br>15-17-24 9-11-15  | 300 150<br>16-18-26 10-12-16 | 350 175<br>17-19-28 10-13-17  | 400 200<br>18-22-30 11-14-18  | 450 225<br>19-22-32 12-15-19  |
|                                                                                        |  3A1   |                                                                                        | CFM/SIDE<br>THROW, FT. | 187 75<br>12-15-20 6-9-11    | 250 100<br>14-17-23 8-10-13  | 312 125<br>16-19-26 9-11-15  | 375 150<br>17-22-29 10-12-16 | 437 175<br>18-22-31 10-13-17  | 500 200<br>19-24-33 11-14-18  | 562 225<br>22-25-35 12-15-1   |
|                                                                                        |  3A2   |                                                                                        | CFM/SIDE<br>THROW, FT. | 168 141<br>10-12-17 9-11-15  | 225 187<br>11-14-19 10-12-17 | 281 234<br>12-16-22 11-14-19 | 337 281<br>13-17-23 12-15-22 | 394 328<br>14-18-25 13-16-22  | 450 375<br>15-19-26 14-17-24  | 506 422<br>16-22-29 15-18-25  |
|                                                                                        |  2A    |  2B   | CFM/SIDE<br>THROW, FT. | 225<br>13-16-22              | 300<br>15-18-25              | 375<br>17-20-29              | 450<br>18-22-32              | 525<br>19-23-34               | 600<br>22-25-36               | 675<br>22-28-38               |
|                                                                                        |  2C    |  2D   | CFM/SIDE<br>THROW, FT. | 300 150<br>14-17-24 10-12-17 | 400 200<br>16-19-28 11-14-19 | 500 250<br>18-22-32 12-16-22 | 600 300<br>19-23-34 13-17-23 | 700 350<br>22-25-36 14-18-25  | 800 400<br>22-26-39 15-19-26  | 900 450<br>24-29-41 16-22-29  |
|                                                                                        |  2E    |  2F   |                        |                              |                              |                              |                              |                               |                               |                               |
|  1A   |  1B   | CFM/SIDE<br>THROW, FT.                                                                 | 450<br>15-18-25        | 600<br>17-22-30              | 750<br>19-24-34              | 900<br>22-26-36              | 1050<br>22-28-39             | 1200<br>24-30-42              | 1350<br>25-32-44              |                               |
| 21<br>x<br>12<br><br>1.75<br>SQ. FT.                                                   | RETURN<br>FACTORS                                                                       | —SP=2.2 TP<br>NC + 5                                                                   | CFM<br>NC              | 525<br>—                     | 700<br>20                    | 875<br>26                    | 1050<br>31                   | 1225<br>35                    | 1400<br>39                    | 1575<br>42                    |
|                                                                                        |  4B  |  4C | CFM/SIDE<br>THROW, FT. | 187 75<br>12-15-20 6-9-11    | 250 100<br>14-17-23 8-10-13  | 312 125<br>16-19-26 9-11-15  | 375 150<br>17-22-29 10-12-16 | 437 175<br>18-22-31 10-13-17  | 500 200<br>19-24-33 11-14-18  | 562 225<br>22-25-35 12-15-19  |
|                                                                                        |  4E  |                                                                                        | CFM/SIDE<br>THROW, FT. | 150 112<br>11-13-18 11-13-18 | 200 150<br>13-15-22 13-15-22 | 250 187<br>15-17-24 15-17-24 | 300 225<br>16-18-26 16-18-26 | 350 262<br>17-19-28 17-19-28  | 400 300<br>18-22-30 18-22-30  | 450 337<br>19-22-32 19-22-32  |
|                                                                                        |  3A1 |                                                                                        | CFM/SIDE<br>THROW, FT. | 225 75<br>13-16-22 6-9-11    | 300 100<br>15-18-25 8-10-13  | 375 125<br>17-20-29 9-11-15  | 450 150<br>18-22-32 10-12-16 | 525 175<br>19-23-34 10-13-17  | 600 200<br>22-25-36 11-14-18  | 675 225<br>22-28-38 12-15-19  |
|                                                                                        |  3A2 |                                                                                        | CFM/SIDE<br>THROW, FT. | 148 230<br>10-12-17 10-12-17 | 197 306<br>11-14-19 11-14-19 | 246 382<br>12-16-22 12-16-22 | 295 460<br>13-17-23 13-17-23 | 345 535<br>14-18-25 14-18-25  | 394 612<br>15-19-26 15-19-26  | 443 688<br>16-22-29 16-22-29  |
|                                                                                        |  2A  |  2B | CFM/SIDE<br>THROW, FT. | 262<br>13-16-22              | 350<br>15-18-25              | 437<br>17-20-29              | 525<br>18-22-32              | 612<br>19-23-34               | 700<br>22-25-36               | 787<br>22-28-38               |
|                                                                                        |  2C  |  2D | CFM/SIDE<br>THROW, FT. | 375 150<br>15-18-25 10-12-17 | 500 200<br>17-22-30 11-14-19 | 625 250<br>19-24-34 12-16-22 | 750 300<br>22-26-36 13-17-23 | 875 350<br>22-28-39 14-18-25  | 1000 400<br>24-30-42 15-19-26 | 1125 450<br>25-32-44 16-22-29 |
|  2E |  2F  |                                                                                        |                        |                              |                              |                              |                              |                               |                               |                               |
|  1A |  1B  | CFM/SIDE<br>THROW, FT.                                                                 | 525<br>16-19-28        | 700<br>18-22-32              | 875<br>20-25-36              | 1050<br>22-28-39             | 1225<br>23-30-42             | 1400<br>25-32-44              | 1575<br>28-34-47              |                               |
| 24<br>x<br>12<br><br>2.0<br>SQ. FT.                                                    | RETURN<br>FACTORS                                                                       | —SP=2.6 TP<br>NC + 5                                                                   | CFM<br>NC              | 600<br>12                    | 800<br>21                    | 1000<br>27                   | 1200<br>32                   | 1400<br>36                    | 1600<br>40                    | 1800<br>43                    |
|                                                                                        |  4B  |  4C | CFM/SIDE<br>THROW, FT. | 225 75<br>13-16-22 6-9-11    | 300 100<br>15-18-25 8-10-13  | 375 125<br>17-20-29 9-11-15  | 450 150<br>18-22-32 10-12-16 | 525 175<br>19-23-34 10-13-17  | 600 200<br>22-25-36 11-14-18  | 675 225<br>22-28-38 12-15-19  |
|                                                                                        |  4E  |                                                                                        | CFM/SIDE<br>THROW, FT. | 150 150<br>11-13-18 11-13-18 | 200 200<br>13-15-22 13-15-22 | 250 250<br>15-17-24 15-17-24 | 300 300<br>16-18-26 16-18-26 | 350 350<br>17-19-28 17-19-28  | 400 400<br>18-22-30 18-22-30  | 450 450<br>19-22-32 19-22-32  |
|                                                                                        |  3A1 |                                                                                        | CFM/SIDE<br>THROW, FT. | 262 75<br>13-16-22 6-9-11    | 350 100<br>15-18-25 8-10-13  | 437 175<br>17-20-29 9-11-15  | 525 150<br>18-22-32 10-12-16 | 612 175<br>19-23-34 10-13-17  | 700 200<br>22-25-36 11-14-18  | 787 225<br>22-28-38 12-15-19  |
|                                                                                        |  3B  |                                                                                        | CFM/SIDE<br>THROW, FT. | 300 150<br>11-13-18 10-12-17 | 400 200<br>13-15-22 11-14-19 | 500 250<br>15-17-24 12-16-22 | 600 300<br>16-18-26 13-17-23 | 700 350<br>17-19-28 14-18-25  | 800 400<br>18-22-30 15-19-26  | 900 450<br>19-22-32 16-22-29  |
|                                                                                        |  2A  |  2B | CFM/SIDE<br>THROW, FT. | 300<br>14-17-24              | 400<br>16-19-28              | 500<br>18-22-32              | 600<br>19-23-34              | 700<br>22-25-36               | 800<br>22-26-39               | 900<br>24-29-41               |
|                                                                                        |  2C  |  2D | CFM/SIDE<br>THROW, FT. | 450 150<br>15-18-25 10-12-17 | 600 200<br>17-22-30 11-14-19 | 750 250<br>19-24-34 12-16-22 | 900 300<br>22-26-36 13-17-23 | 1050 350<br>22-28-39 14-18-25 | 1200 400<br>24-30-42 15-19-26 | 1350 450<br>25-32-44 16-22-29 |
|  2E |  2F  |                                                                                        |                        |                              |                              |                              |                              |                               |                               |                               |
|  1A |  1B  | CFM/SIDE<br>THROW, FT.                                                                 | 600<br>17-22-30        | 800<br>20-24-34              | 1000<br>23-28-39             | 1200<br>24-30-41             | 1400<br>26-32-44             | 1600<br>29-35-47              | 1800<br>31-37-50              |                               |

#### Notes:

- Core style 4E is sized to give equal flow as near as possible in directions A and B.
- For core styles 1A, 1B, 2A and 2B, the "A" direction is shown. Throw correction factor for "B" direction is: A x .82 = B.

For performance notes, see page D60.

## Performance Data

### Model 6400 • Rectangular Neck

| NOMINAL<br>NECK<br>SIZE               | BLOW<br>PATTERNS                                                                        |                                                                                        | NECK VEL.<br>VP<br>TP  | 300<br>.006<br>.029          | 400<br>.010<br>.051           | 500<br>.016<br>.080           | 600<br>.022<br>.116           | 700<br>.031<br>.157           | 800<br>.040<br>.205           | 900<br>.050<br>.260           |
|---------------------------------------|-----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|------------------------|------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|
| 30<br>x<br>12<br><br>2.5<br>SQ. FT.   | RETURN<br>FACTORS                                                                       | —SP=3.3 TP<br>NC + 6                                                                   | CFM<br>NC              | 750<br>15                    | 1000<br>23                    | 1250<br>29                    | 1500<br>33                    | 1750<br>37                    | 2000<br>41                    | 2250<br>43                    |
|                                       |  4B    |  4C   | CFM/SIDE<br>THROW, FT. | 300 75<br>14-17-24 6-9-11    | 400 100<br>16-19-28 8-10-13   | 500 125<br>18-22-32 9-11-15   | 600 150<br>19-23-34 10-12-16  | 700 175<br>21-25-36 10-13-17  | 800 200<br>22-26-39 11-14-18  | 900 225<br>24-29-41 12-15-19  |
|                                       |  4E    |                                                                                        | CFM/SIDE<br>THROW, FT. | 183 183<br>12-15-20 12-15-20 | 250 250<br>14-17-23 14-17-23  | 313 313<br>16-19-26 16-19-26  | 375 375<br>17-22-29 17-22-29  | 437 437<br>18-22-31 18-22-31  | 500 500<br>19-24-33 19-24-33  | 562 562<br>22-25-35 22-25-35  |
|                                       |  3A1   |                                                                                        | CFM/SIDE<br>THROW, FT. | 337 75<br>14-17-24 6-9-11    | 450 100<br>16-19-28 8-10-13   | 562 125<br>18-22-32 9-11-15   | 675 150<br>19-23-34 10-12-16  | 787 175<br>21-25-36 10-13-17  | 900 200<br>22-26-39 11-14-18  | 1012 225<br>24-29-41 12-15-19 |
|                                       |  2A    |                                                                                        | CFM/SIDE<br>THROW, FT. | 375<br>15-18-25              | 500<br>17-22-30               | 625<br>19-24-34               | 750<br>22-26-36               | 875<br>22-28-39               | 1000<br>24-30-42              | 1125<br>25-32-44              |
|                                       |  2C    |  2D   | CFM/SIDE<br>THROW, FT. | 600 150<br>17-22-30 10-12-17 | 800 200<br>20-24-34 11-14-19  | 1000 250<br>23-28-39 12-16-22 | 1200 300<br>24-30-41 13-17-23 | 1400 350<br>26-32-44 14-18-25 | 1600 400<br>29-35-47 15-19-26 | 1800 450<br>31-37-50 16-22-29 |
|                                       |  2E    |  2F   |                        |                              |                               |                               |                               |                               |                               |                               |
|                                       |  1A    |                                                                                        | CFM/SIDE<br>THROW, FT. | 750<br>18-22-32              | 1000<br>22-25-36              | 1250<br>24-29-41              | 1500<br>26-32-44              | 1750<br>28-34-47              | 2000<br>30-36-50              | 2250<br>32-38-53              |
| 36<br>x<br>12<br><br>3.0<br>SQ. FT.   | RETURN<br>FACTORS                                                                       | —SP=4.0 TP<br>NC + 7                                                                   | CFM<br>NC              | 900<br>16                    | 1200<br>25                    | 1500<br>30                    | 1800<br>34                    | 2100<br>38                    | 2400<br>42                    | 2700<br>44                    |
|                                       |  4B    |  4C   | CFM/SIDE<br>THROW, FT. | 375 75<br>15-18-25 6-9-11    | 500 100<br>17-22-30 8-10-13   | 625 125<br>19-24-34 9-11-15   | 750 150<br>22-26-36 10-12-16  | 875 175<br>22-28-39 10-13-17  | 1000 200<br>24-30-42 11-14-18 | 1125 225<br>25-32-44 12-15-19 |
|                                       |  4E    |                                                                                        | CFM/SIDE<br>THROW, FT. | 225 225<br>13-16-22 13-16-22 | 300 300<br>15-18-25 15-18-25  | 375 375<br>17-20-29 17-20-29  | 450 450<br>18-22-32 18-22-32  | 525 525<br>19-23-34 19-23-34  | 600 600<br>22-25-36 22-25-36  | 675 675<br>22-28-38 22-28-38  |
|                                       |  3A1   |                                                                                        | CFM/SIDE<br>THROW, FT. | 412 75<br>15-18-25 6-9-11    | 550 100<br>17-22-30 8-10-13   | 687 125<br>19-24-34 9-11-15   | 825 150<br>22-26-36 10-12-16  | 962 175<br>22-28-39 10-13-17  | 1100 200<br>24-30-42 11-14-18 | 1237 225<br>25-32-44 12-15-19 |
|                                       |  2A   |                                                                                        | CFM/SIDE<br>THROW, FT. | 450<br>15-18-25              | 600<br>17-22-30               | 750<br>19-24-34               | 900<br>22-26-36               | 1050<br>22-28-39              | 1200<br>24-30-42              | 1350<br>25-32-44              |
|                                       |  2C  |  2D | CFM/SIDE<br>THROW, FT. | 750 150<br>18-22-32 10-12-17 | 1000 200<br>22-25-36 11-14-19 | 1250 250<br>24-29-41 12-16-22 | 1500 300<br>26-32-44 13-17-23 | 1750 350<br>28-34-47 14-18-25 | 2000 400<br>30-36-50 15-19-26 | 2250 450<br>32-38-53 16-22-29 |
|                                       |  2E  |  2F |                        |                              |                               |                               |                               |                               |                               |                               |
|                                       |  1A  |                                                                                        | CFM/SIDE<br>THROW, FT. | 900<br>19-24-33              | 1200<br>22-28-38              | 1500<br>25-32-43              | 1800<br>28-34-46              | 2100<br>30-36-50              | 2400<br>32-39-53              | 2700<br>34-41-57              |
| 18<br>x<br>15<br><br>1.875<br>SQ. FT. | RETURN<br>FACTORS                                                                       | —SP=2.0 TP<br>NC + 4                                                                   | CFM<br>NC              | 560<br>14                    | 750<br>21                     | 935<br>28                     | 1125<br>32                    | 1310<br>36                    | 1500<br>39                    | 1685<br>43                    |
|                                       |  4B  |  4C | CFM/SIDE<br>THROW, FT. | 164 117<br>10-12-17 8-10-13  | 219 156<br>11-14-19 9-11-15   | 273 195<br>12-16-22 10-12-17  | 328 234<br>13-17-23 11-13-18  | 383 273<br>14-18-25 12-14-19  | 438 312<br>15-19-26 12-15-22  | 492 351<br>16-22-29 13-16-22  |
|                                       |  3A1 |                                                                                        | CFM/SIDE<br>THROW, FT. | 222 117<br>13-16-22 8-10-13  | 297 156<br>15-18-25 9-11-15   | 371 195<br>17-20-29 10-12-17  | 445 234<br>18-22-32 11-13-18  | 519 273<br>19-23-34 12-14-19  | 594 312<br>22-25-36 12-15-22  | 668 351<br>22-28-38 13-16-22  |
|                                       |  3A2 |                                                                                        | CFM/SIDE<br>THROW, FT. | 168 197<br>9-11-15 12-15-20  | 225 262<br>10-12-17 14-17-23  | 281 328<br>11-14-19 16-19-26  | 337 394<br>12-15-22 17-22-29  | 394 459<br>13-16-22 18-22-31  | 450 525<br>14-17-24 19-24-33  | 506 590<br>15-18-25 22-25-35  |
|                                       |  2A  |                                                                                        | CFM/SIDE<br>THROW, FT. | 281<br>14-17-24              | 375<br>16-19-28               | 468<br>18-22-32               | 562<br>19-23-34               | 656<br>22-25-36               | 750<br>22-26-39               | 843<br>24-29-41               |
|                                       |  2C  |  2D | CFM/SIDE<br>THROW, FT. | 329 234<br>17-22-30 12-15-20 | 438 312<br>20-24-34 14-17-23  | 547 390<br>23-28-39 16-19-26  | 657 468<br>24-30-41 17-22-29  | 766 546<br>26-32-44 18-22-31  | 876 624<br>29-35-47 19-24-33  | 985 702<br>31-37-50 22-25-35  |
|                                       |  2E  |  2F |                        |                              |                               |                               |                               |                               |                               |                               |
|                                       |  1A  |                                                                                        | CFM/SIDE<br>THROW, FT. | 562<br>16-19-28              | 750<br>18-22-32               | 937<br>20-25-36               | 1125<br>22-28-39              | 1312<br>23-30-42              | 1500<br>25-32-44              | 1687<br>28-34-47              |

#### Notes:

- Core style 4E is sized to give equal flow as near as possible in directions A and B.
- For core styles 1A, 1B, 2A and 2B, the "A" direction is shown. Throw correction factor for "B" direction is:  $A \times .82 = B$ .

For performance notes, see page D60.

D

CEILING DIFFUSERS

## Performance Data

### Model 6400 • Rectangular Neck

| NOMINAL<br>NECK<br>SIZE               | BLOW<br>PATTERNS                 | NECK VEL.<br>VP<br>TP  | 300<br>.006<br>.029          | 400<br>.010<br>.051          | 500<br>.016<br>.080           | 600<br>.022<br>.116           | 700<br>.031<br>.157           | 800<br>.040<br>.205           | 900<br>.050<br>.260           |
|---------------------------------------|----------------------------------|------------------------|------------------------------|------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|
| 21<br>x<br>15<br><br>2.185<br>SQ. FT. | RETURN FACTORS —SP=2.1 TP NC + 5 | CFM NC                 | 655<br>12                    | 875<br>21                    | 1090<br>28                    | 1310<br>33                    | 1530<br>36                    | 1750<br>39                    | 1970<br>43                    |
|                                       | 4B  4C                           | CFM/SIDE<br>THROW, FT. | 210 117<br>13-16-22 8-10-13  | 281 156<br>15-18-25 9-11-15  | 361 195<br>17-20-29 10-12-17  | 422 234<br>18-22-32 11-13-18  | 493 273<br>19-23-34 12-14-19  | 563 312<br>22-25-36 12-15-22  | 634 351<br>22-28-38 13-16-22  |
|                                       | 4E                               | CFM/SIDE<br>THROW, FT. | 164 164<br>12-15-20 12-15-20 | 218 218<br>14-17-24 14-17-24 | 273 273<br>16-19-26 16-19-26  | 327 327<br>17-22-29 17-22-29  | 382 382<br>18-22-31 18-22-31  | 437 437<br>19-24-33 19-24-33  | 491 491<br>22-25-35 22-25-35  |
|                                       | 3A1                              | CFM/SIDE<br>THROW, FT. | 269 117<br>13-16-22 8-10-13  | 359 156<br>15-18-25 9-11-15  | 448 195<br>17-20-29 10-12-17  | 539 234<br>18-22-32 11-13-18  | 629 273<br>19-23-34 12-14-19  | 719 312<br>22-25-36 12-15-22  | 809 351<br>22-28-38 13-16-22  |
|                                       | 3A2                              | CFM/SIDE<br>THROW, FT. | 230 213<br>11-13-18 10-12-17 | 306 284<br>13-15-22 11-14-19 | 382 355<br>15-17-24 12-16-22  | 460 426<br>16-18-26 13-17-23  | 535 498<br>17-19-28 14-18-25  | 612 569<br>18-22-30 15-19-26  | 688 641<br>19-22-32 16-22-29  |
|                                       | 2A<br>2B                         | CFM/SIDE<br>THROW, FT. | 327<br>14-17-24              | 437<br>16-19-28              | 566<br>18-22-32               | 656<br>19-23-34               | 766<br>22-25-36               | 875<br>22-26-39               | 985<br>24-29-41               |
|                                       | 2C  2D<br>2E  2F                 | CFM/SIDE<br>THROW, FT. | 422 234<br>15-18-25 12-15-20 | 563 312<br>17-22-30 14-17-23 | 702 390<br>19-24-34 16-19-26  | 844 468<br>22-26-36 17-22-29  | 966 546<br>22-28-39 18-22-31  | 1126 624<br>24-30-42 19-24-33 | 1268 702<br>25-32-44 22-25-35 |
|                                       | 1A<br>1B                         | CFM/SIDE<br>THROW, FT. | 655<br>17-22-30              | 875<br>20-24-34              | 1092<br>23-28-39              | 1312<br>24-30-41              | 1532<br>26-32-44              | 1750<br>29-35-47              | 1970<br>31-37-50              |
|                                       | RETURN FACTORS —SP=2.6 TP NC + 6 | CFM NC                 | 750<br>14                    | 1000<br>22                   | 1250<br>29                    | 1500<br>34                    | 1750<br>37                    | 2000<br>39                    | 2250<br>44                    |
|                                       | 4B  4C                           | CFM/SIDE<br>THROW, FT. | 258 117<br>13-16-22 8-10-13  | 344 156<br>15-18-25 9-11-15  | 430 195<br>17-20-29 10-12-17  | 516 234<br>18-22-32 11-13-18  | 602 273<br>19-23-34 12-14-19  | 688 312<br>22-25-36 12-15-22  | 774 351<br>22-28-38 13-16-22  |
| 24<br>x<br>15<br><br>2.5<br>SQ. FT.   | 4E                               | CFM/SIDE<br>THROW, FT. | 211 164<br>13-16-22 12-15-20 | 281 218<br>15-18-25 14-17-24 | 352 273<br>17-20-29 16-19-26  | 422 327<br>18-22-32 17-22-29  | 492 382<br>19-23-34 18-22-31  | 563 437<br>22-25-36 19-24-33  | 633 491<br>22-28-38 22-25-35  |
|                                       | 3A1                              | CFM/SIDE<br>THROW, FT. | 316 117<br>14-17-24 8-10-13  | 422 156<br>16-19-28 9-11-15  | 527 195<br>18-22-32 10-12-17  | 633 234<br>19-23-34 11-13-18  | 738 273<br>22-25-36 12-14-19  | 844 312<br>22-26-39 12-15-22  | 949 351<br>24-29-41 13-16-22  |
|                                       | 3A2                              | CFM/SIDE<br>THROW, FT. | 300 225<br>13-16-22 11-13-18 | 400 300<br>15-18-25 13-15-22 | 500 375<br>17-20-29 15-17-24  | 600 450<br>18-22-32 16-18-26  | 700 525<br>19-23-34 17-19-28  | 800 600<br>22-25-36 18-22-30  | 900 675<br>22-28-38 19-22-32  |
|                                       | 2A<br>2B                         | CFM/SIDE<br>THROW, FT. | 375<br>15-18-25              | 500<br>17-22-30              | 625<br>19-24-34               | 750<br>22-26-36               | 875<br>22-28-39               | 1000<br>24-30-42              | 1125<br>25-32-44              |
|                                       | 2C  2D<br>2E  2F                 | CFM/SIDE<br>THROW, FT. | 516 234<br>16-19-28 12-15-20 | 688 312<br>18-22-32 14-17-23 | 860 390<br>20-25-36 16-19-26  | 1032 468<br>22-28-39 17-22-29 | 1204 546<br>23-30-42 18-22-31 | 1376 624<br>25-32-44 19-24-33 | 1548 702<br>28-34-47 22-25-35 |
|                                       | 1A<br>1B                         | CFM/SIDE<br>THROW, FT. | 750<br>18-22-32              | 1000<br>22-25-36             | 1250<br>24-29-41              | 1500<br>26-32-44              | 1750<br>28-34-47              | 2000<br>30-36-50              | 2250<br>32-38-53              |
|                                       | RETURN FACTORS —SP=3.1 TP NC + 7 | CFM NC                 | 935<br>14                    | 1250<br>23                   | 1565<br>30                    | 1875<br>36                    | 2190<br>39                    | 2500<br>40                    | 2810<br>45                    |
|                                       | 4B  4C                           | CFM/SIDE<br>THROW, FT. | 351 117<br>14-17-24 8-10-13  | 469 156<br>16-19-28 9-11-15  | 587 195<br>18-22-32 10-12-17  | 703 234<br>19-23-34 11-13-18  | 822 273<br>22-25-36 12-14-19  | 938 312<br>22-26-39 12-15-22  | 1054 351<br>24-29-41 13-16-22 |
|                                       | 4E                               | CFM/SIDE<br>THROW, FT. | 258 211<br>13-16-22 13-16-22 | 344 281<br>15-18-25 15-18-25 | 430 352<br>17-20-29 17-20-29  | 516 422<br>18-22-32 18-22-32  | 602 492<br>19-23-34 19-23-34  | 688 583<br>22-25-36 22-25-36  | 775 633<br>22-28-38 22-28-38  |
|                                       | 3A1                              | CFM/SIDE<br>THROW, FT. | 410 117<br>15-18-25 8-10-13  | 547 156<br>17-22-30 9-11-15  | 685 195<br>19-24-34 10-12-17  | 820 234<br>22-26-36 11-13-18  | 958 273<br>22-28-39 12-14-19  | 1094 312<br>24-30-42 12-15-22 | 1224 351<br>25-32-44 13-16-22 |
| 30<br>x<br>15<br><br>3.125<br>SQ. FT. | 3B                               | CFM/SIDE<br>THROW, FT. | 468 234<br>12-15-20 12-15-20 | 625 312<br>14-17-23 14-17-23 | 782 391<br>16-19-26 16-19-26  | 937 469<br>17-22-29 17-22-29  | 1095 547<br>18-22-31 18-22-31 | 1250 625<br>19-24-33 19-24-33 | 1406 702<br>22-25-35 22-25-35 |
|                                       | 2A<br>2B                         | CFM/SIDE<br>THROW, FT. | 468<br>16-19-28              | 625<br>18-22-32              | 782<br>20-25-36               | 937<br>22-28-39               | 1095<br>23-30-42              | 1250<br>25-32-44              | 1405<br>28-34-47              |
|                                       | 2C  2D<br>2E  2F                 | CFM/SIDE<br>THROW, FT. | 702 234<br>17-22-30 12-15-20 | 938 312<br>20-24-34 14-17-23 | 1175 390<br>23-28-39 16-19-26 | 1407 468<br>24-30-41 17-22-29 | 1644 546<br>26-32-44 18-22-31 | 1876 624<br>29-35-47 19-24-33 | 2108 702<br>34-37-50 22-25-35 |
|                                       | 1A<br>1B                         | CFM/SIDE<br>THROW, FT. | 937<br>19-24-33              | 1250<br>22-28-38             | 1565<br>25-32-43              | 1875<br>28-34-46              | 2190<br>30-36-50              | 2500<br>32-39-53              | 2810<br>34-41-57              |
|                                       |                                  |                        |                              |                              |                               |                               |                               |                               |                               |
|                                       |                                  |                        |                              |                              |                               |                               |                               |                               |                               |
|                                       |                                  |                        |                              |                              |                               |                               |                               |                               |                               |

#### Notes:

- Core style 4E is sized to give equal flow as near as possible in directions A and B.
- For core styles 1A, 1B, 2A and 2B, the "A" direction is shown. Throw correction factor for "B" direction is: A x .82 = B.

For performance notes, see page D60.



## Performance Data

### Model 6400 • Rectangular Neck

| NOMINAL<br>NECK<br>SIZE               | BLOW<br>PATTERNS                       | NECK VEL.<br>VP<br>TP  | 300<br>.006<br>.029          | 400<br>.010<br>.051           | 500<br>.016<br>.080           | 600<br>.022<br>.116           | 700<br>.031<br>.157           | 800<br>.040<br>.205           | 900<br>.050<br>.260            |
|---------------------------------------|----------------------------------------|------------------------|------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|--------------------------------|
| 36<br>x<br>15<br><br>3.75<br>SQ. FT.  | RETURN<br>FACTORS —SP=3.8 TP<br>NC + 7 | CFM<br>NC              | 1125<br>13                   | 1500<br>23                    | 1875<br>31                    | 2250<br>37                    | 2625<br>40                    | 3000<br>41                    | 3375<br>46                     |
|                                       | 4B  4C                                 | CFM/SIDE<br>THROW, FT. | 446 117<br>15-18-25 8-10-13  | 594 156<br>17-22-30 9-11-15   | 742 195<br>19-24-34 10-12-17  | 891 234<br>22-26-36 11-13-18  | 1039 273<br>22-30-39 12-14-19 | 1188 312<br>24-30-42 12-15-22 | 1336 351<br>25-32-44 13-16-22  |
|                                       | 4E                                     | CFM/SIDE<br>THROW, FT. | 306 258<br>14-17-24 13-16-22 | 408 344<br>16-19-28 15-18-25  | 510 430<br>18-22-32 17-20-29  | 612 516<br>19-23-34 18-22-32  | 714 602<br>22-25-36 19-23-34  | 816 688<br>22-26-39 22-25-36  | 918 775<br>24-29-41 22-28-38   |
|                                       | 3A1                                    | CFM/SIDE<br>THROW, FT. | 504 117<br>16-19-28 8-10-13  | 672 156<br>18-22-32 9-11-15   | 840 195<br>20-25-36 10-12-17  | 1008 234<br>22-30-39 11-13-18 | 1176 273<br>23-30-42 12-14-19 | 1344 312<br>25-32-44 12-15-22 | 1512 351<br>28-34-47 13-16-22  |
|                                       | 2A<br>2B                               | CFM/SIDE<br>THROW, FT. | 562<br>16-19-28              | 750<br>18-22-32               | 937<br>20-25-36               | 1125<br>22-28-39              | 1312<br>23-30-42              | 1500<br>25-32-44              | 1682<br>28-34-47               |
|                                       | 2C  2E  2D  2F                         | CFM/SIDE<br>THROW, FT. | 890 234<br>19-24-33 12-15-20 | 1188 312<br>22-28-33 14-17-23 | 1485 390<br>25-32-43 16-19-26 | 1782 468<br>28-34-46 17-22-29 | 2079 546<br>30-36-50 18-22-31 | 2376 624<br>32-39-53 19-24-33 | 2873 702<br>34-41-57 22-25-35  |
|                                       | 1A<br>1B                               | CFM/SIDE<br>THROW, FT. | 1125<br>20-25-35             | 1500<br>23-29-40              | 1875<br>26-32-45              | 2250<br>28-35-49              | 2625<br>31-38-52              | 3000<br>33-40-57              | 3375<br>35-43-60               |
| 21<br>x<br>18<br><br>2.625<br>SQ. FT. | RETURN<br>FACTORS —SP=2.2 TP<br>NC + 5 | CFM<br>NC              | 785<br>14                    | 1050<br>21                    | 1310<br>27                    | 1575<br>32                    | 1840<br>36                    | 2100<br>40                    | 2360<br>43                     |
|                                       | 4B  4C                                 | CFM/SIDE<br>THROW, FT. | 225 169<br>11-13-18 9-11-15  | 300 225<br>13-15-22 10-12-17  | 375 280<br>15-17-24 11-14-19  | 450 337<br>16-18-27 12-15-22  | 526 394<br>17-19-28 13-16-22  | 600 450<br>18-22-30 14-17-24  | 674 506<br>19-22-32 15-18-25   |
|                                       | 3A1                                    | CFM/SIDE<br>THROW, FT. | 309 169<br>14-17-24 9-11-15  | 412 225<br>16-19-28 10-12-17  | 514 281<br>18-22-32 11-14-19  | 619 337<br>19-23-34 12-15-22  | 723 394<br>22-25-36 13-16-22  | 825 450<br>22-26-39 14-17-24  | 927 506<br>24-29-41 15-18-25   |
|                                       | 3A2                                    | CFM/SIDE<br>THROW, FT. | 279 230<br>14-17-24 10-12-17 | 372 306<br>16-19-28 11-14-19  | 464 382<br>18-22-32 12-16-22  | 557 460<br>19-23-34 13-17-23  | 652 535<br>22-25-36 14-18-25  | 744 612<br>22-26-39 15-19-26  | 836 688<br>24-29-41 16-22-29   |
|                                       | 2A<br>2B                               | CFM/SIDE<br>THROW, FT. | 393<br>15-18-25              | 525<br>17-22-30               | 655<br>19-24-31               | 787<br>22-26-36               | 920<br>22-28-39               | 1050<br>24-30-42              | 1180<br>25-32-44               |
|                                       | 2C  2E  2D  2F                         | CFM/SIDE<br>THROW, FT. | 450 338<br>15-18-25 13-16-22 | 600 450<br>17-22-30 15-18-25  | 750 560<br>19-24-31 17-20-29  | 900 675<br>22-26-36 18-22-32  | 1060 790<br>22-28-39 19-23-34 | 1200 900<br>24-30-42 22-25-36 | 1350 1010<br>25-32-44 22-28-38 |
|                                       | 1A<br>1B                               | CFM/SIDE<br>THROW, FT. | 787<br>18-22-32              | 1050<br>22-25-36              | 1310<br>24-29-41              | 1575<br>26-32-44              | 1840<br>28-34-47              | 2100<br>30-36-50              | 2360<br>32-38-53               |
| 24<br>x<br>18<br><br>3.0<br>SQ. FT.   | RETURN<br>FACTORS —SP=2.5 TP<br>NC + 6 | CFM<br>NC              | 900<br>15                    | 1200<br>22                    | 1500<br>28                    | 1800<br>33                    | 2100<br>37                    | 2400<br>40                    | 2700<br>43                     |
|                                       | 4B  4C                                 | CFM/SIDE<br>THROW, FT. | 281 169<br>14-17-24 9-11-15  | 375 225<br>16-19-28 10-12-17  | 469 281<br>18-22-32 11-14-19  | 563 337<br>19-23-34 12-15-22  | 656 394<br>22-25-36 13-16-22  | 750 450<br>22-26-39 14-17-24  | 844 506<br>24-29-41 15-18-25   |
|                                       | 4E                                     | CFM/SIDE<br>THROW, FT. | 225 225<br>13-16-22 13-16-22 | 300 300<br>15-18-25 15-18-25  | 375 375<br>17-20-29 17-20-29  | 450 450<br>18-22-32 18-22-32  | 525 525<br>19-23-34 19-23-34  | 600 600<br>22-25-36 22-25-36  | 675 675<br>22-28-38 22-28-38   |
|                                       | 3A1                                    | CFM/SIDE<br>THROW, FT. | 366 169<br>15-18-25 9-11-15  | 487 225<br>17-22-30 10-12-17  | 609 281<br>19-24-34 11-14-19  | 731 337<br>22-26-36 12-15-22  | 853 394<br>22-28-39 13-16-22  | 975 450<br>24-30-42 14-17-24  | 1098 506<br>25-32-44 15-18-25  |
|                                       | 3A2                                    | CFM/SIDE<br>THROW, FT. | 300 300<br>14-17-24 11-13-18 | 400 400<br>16-19-28 13-15-22  | 500 500<br>18-22-32 15-17-24  | 600 600<br>19-23-34 16-18-26  | 700 700<br>22-25-36 17-19-28  | 800 800<br>22-26-39 18-22-30  | 900 900<br>24-29-41 19-22-32   |
|                                       | 2A<br>2B                               | CFM/SIDE<br>THROW, FT. | 450<br>15-18-25              | 600<br>17-22-30               | 750<br>19-24-34               | 900<br>22-26-36               | 1050<br>22-28-39              | 1200<br>24-30-42              | 1350<br>25-32-44               |
|                                       | 2C  2E  2D  2F                         | CFM/SIDE<br>THROW, FT. | 562 338<br>16-19-28 13-16-22 | 750 450<br>18-22-32 15-18-25  | 938 562<br>20-25-36 17-20-29  | 1125 675<br>22-28-39 18-22-32 | 1313 787<br>23-30-42 19-23-34 | 1500 900<br>25-32-44 22-25-36 | 1688 1012<br>28-34-47 22-28-38 |
|                                       | 1A<br>1B                               | CFM/SIDE<br>THROW, FT. | 900<br>19-24-33              | 1200<br>22-28-38              | 1500<br>25-32-43              | 1800<br>28-34-46              | 2100<br>30-36-50              | 2400<br>32-39-53              | 2700<br>34-41-57               |

#### Notes:

1. Core style 4E is sized to give equal flow as near as possible in directions A and B.
2. For core styles 1A, 1B, 2A and 2B, the "A" direction is shown. Throw correction factor for "B" direction is:  $A \times .82 = B$ .

For performance notes, see page D60.

D

CEILING DIFFUSERS

## Performance Data

### Model 6400 • Rectangular Neck

| NOMINAL<br>NECK<br>SIZE                                                                | BLOW<br>PATTERNS                                                                        |                                                                                        | NECK VEL.<br>VP<br>TP         | 300<br>.006<br>.029           | 400<br>.010<br>.051           | 500<br>.016<br>.080           | 600<br>.022<br>.116            | 700<br>.031<br>.157            | 800<br>.040<br>.205            | 900<br>.050<br>.260            |
|----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| 30<br>x<br>18<br><br>3.75<br>SQ. FT.                                                   | RETURN<br>FACTORS                                                                       | —SP=3.1 TP<br>NC + 7                                                                   | CFM<br>NC                     | 1125<br>15                    | 1500<br>23                    | 1875<br>29                    | 2250<br>34                     | 2625<br>38                     | 3000<br>42                     | 3375<br>45                     |
|                                                                                        |  4B    |  4C   | CFM/SIDE<br>THROW, FT.        | 394 169<br>15-18-25 9-11-15   | 525 225<br>17-22-30 10-12-17  | 657 281<br>19-24-34 11-14-19  | 788 337<br>22-26-36 12-15-22   | 918 394<br>22-28-39 13-16-22   | 1050 450<br>24-30-42 14-17-24  | 1181 506<br>25-32-44 15-18-25  |
|                                                                                        |  4E    |                                                                                        | CFM/SIDE<br>THROW, FT.        | 281 281<br>14-17-24 14-17-24  | 375 375<br>16-19-28 16-19-28  | 469 469<br>18-22-32 18-22-32  | 563 563<br>19-23-34 19-23-34   | 657 657<br>22-25-36 22-25-36   | 750 750<br>22-26-39 22-26-39   | 845 845<br>24-29-41 24-29-41   |
|                                                                                        |  3A1   |                                                                                        | CFM/SIDE<br>THROW, FT.        | 478 169<br>16-19-28 9-11-15   | 637 225<br>18-22-32 10-12-17  | 797 281<br>20-25-36 11-14-19  | 956 337<br>22-28-39 12-15-22   | 1115 394<br>23-30-42 13-16-22  | 1275 450<br>25-32-44 14-17-24  | 1434 506<br>28-34-47 15-18-25  |
|                                                                                        |  3A2   |                                                                                        | CFM/SIDE<br>THROW, FT.        | 469 327<br>14-17-24 12-15-20  | 625 437<br>16-19-28 14-17-23  | 782 546<br>18-22-32 16-19-26  | 937 656<br>19-23-34 17-22-29   | 1093 766<br>22-25-36 18-22-31  | 1250 875<br>22-26-39 19-24-33  | 1406 984<br>24-29-41 22-25-35  |
|                                                                                        |  2A    |                                                                                        | CFM/SIDE<br>THROW, FT.        | 562<br>16-19-28               | 750<br>18-22-32               | 937<br>20-25-36               | 1125<br>22-28-39               | 1312<br>23-30-42               | 1500<br>25-32-44               | 1687<br>28-34-47               |
|                                                                                        |  2B    |                                                                                        | CFM/SIDE<br>THROW, FT.        | 562<br>16-19-28               | 750<br>18-22-32               | 937<br>20-25-36               | 1125<br>22-28-39               | 1312<br>23-30-42               | 1500<br>25-32-44               | 1687<br>28-34-47               |
|                                                                                        |  2C    |  2D   | CFM/SIDE<br>THROW, FT.        | 787 337<br>18-22-32 13-16-22  | 1050 450<br>22-25-36 15-18-25 | 1313 562<br>24-29-41 17-20-29 | 1575 675<br>26-32-44 18-22-32  | 1838 787<br>28-34-47 19-23-34  | 2100 900<br>30-36-50 22-25-36  | 2363 1012<br>32-38-53 22-28-38 |
|  2E   |  2F    | CFM/SIDE<br>THROW, FT.                                                                 | 787 337<br>18-22-32 13-16-22  | 1050 450<br>22-25-36 15-18-25 | 1313 562<br>24-29-41 17-20-29 | 1575 675<br>26-32-44 18-22-32 | 1838 787<br>28-34-47 19-23-34  | 2100 900<br>30-36-50 22-25-36  | 2363 1012<br>32-38-53 22-28-38 |                                |
|  1A  |  1B  | CFM/SIDE<br>THROW, FT.                                                                 | 1125<br>20-25-35              | 1500<br>23-29-39              | 1875<br>26-33-45              | 2250<br>29-35-49              | 2625<br>31-38-52               | 3000<br>33-40-57               | 3375<br>35-43-60               |                                |
| 36<br>x<br>18<br><br>4.5<br>SQ. FT.                                                    | RETURN<br>FACTORS                                                                       | —SP=3.6 TP<br>NC + 8                                                                   | CFM<br>NC                     | 1350<br>16                    | 1800<br>24                    | 2250<br>30                    | 2700<br>35                     | 3150<br>39                     | 3600<br>42                     | 4050<br>45                     |
|                                                                                        |  4B    |  4C   | CFM/SIDE<br>THROW, FT.        | 506 169<br>16-19-28 9-11-15   | 675 225<br>18-22-32 10-12-17  | 844 281<br>22-25-36 11-14-19  | 1013 337<br>22-28-39 12-15-22  | 1181 394<br>23-30-42 13-16-22  | 1350 450<br>25-32-44 14-17-24  | 1519 506<br>28-34-47 15-18-25  |
|                                                                                        |  4E   |                                                                                        | CFM/SIDE<br>THROW, FT.        | 339 339<br>14-17-24 14-17-24  | 452 452<br>16-19-28 16-19-28  | 565 565<br>18-22-32 18-22-32  | 678 678<br>19-23-34 19-23-34   | 791 791<br>22-25-36 22-25-36   | 904 904<br>22-26-39 22-26-39   | 1020 1020<br>24-29-41 24-29-41 |
|                                                                                        |  3A1 |                                                                                        | CFM/SIDE<br>THROW, FT.        | 591 169<br>17-22-30 9-11-15   | 787 225<br>20-24-34 10-12-17  | 984 281<br>22-28-39 11-14-19  | 1181 337<br>24-30-41 12-15-22  | 1378 394<br>26-32-44 13-16-22  | 1575 450<br>29-35-47 14-17-24  | 1772 506<br>31-37-50 15-18-25  |
|                                                                                        |  3B  |                                                                                        | CFM/SIDE<br>THROW, FT.        | 675 337<br>13-16-22 13-16-22  | 900 450<br>15-18-25 15-18-25  | 1125 562<br>17-20-29 17-20-29 | 1350 675<br>18-22-32 18-22-32  | 1575 787<br>19-23-34 19-23-34  | 1800 900<br>22-25-36 22-25-36  | 2025 1012<br>22-28-38 22-28-38 |
|                                                                                        |  2A  |                                                                                        | CFM/SIDE<br>THROW, FT.        | 675<br>17-22-30               | 900<br>20-24-34               | 1125<br>23-28-39              | 1350<br>24-30-41               | 1575<br>26-32-44               | 1800<br>29-35-47               | 2025<br>31-37-50               |
|                                                                                        |  2B  |                                                                                        | CFM/SIDE<br>THROW, FT.        | 675<br>17-22-30               | 900<br>20-24-34               | 1125<br>23-28-39              | 1350<br>24-30-41               | 1575<br>26-32-44               | 1800<br>29-35-47               | 2025<br>31-37-50               |
|                                                                                        |  2C  |  2D | CFM/SIDE<br>THROW, FT.        | 1010 337<br>20-25-35 13-16-22 | 1350 450<br>23-29-40 15-18-25 | 1688 562<br>26-33-45 17-20-29 | 2025 675<br>29-35-49 18-22-32  | 2363 787<br>31-38-52 19-23-34  | 2700 900<br>33-40-57 22-25-36  | 3038 1012<br>35-43-60 22-28-38 |
|  2E |  2F  | CFM/SIDE<br>THROW, FT.                                                                 | 1010 337<br>20-25-35 13-16-22 | 1350 450<br>23-29-40 15-18-25 | 1688 562<br>26-33-45 17-20-29 | 2025 675<br>29-35-49 18-22-32 | 2363 787<br>31-38-52 19-23-34  | 2700 900<br>33-40-57 22-25-36  | 3038 1012<br>35-43-60 22-28-38 |                                |
|  1A |  1B  | CFM/SIDE<br>THROW, FT.                                                                 | 1350<br>22-25-37              | 1800<br>24-30-42              | 2250<br>28-34-48              | 2700<br>30-36-51              | 3150<br>32-39-56               | 3600<br>34-42-58               | 4050<br>37-44-63               |                                |
| 24<br>x<br>21<br><br>3.5<br>SQ. FT.                                                    | RETURN<br>FACTORS                                                                       | —SP=2.1 TP<br>NC + 7                                                                   | CFM<br>NC                     | 1050<br>15                    | 1400<br>22                    | 1750<br>28                    | 2100<br>33                     | 2450<br>37                     | 2800<br>41                     | 3150<br>44                     |
|                                                                                        |  4B  |  4C | CFM/SIDE<br>THROW, FT.        | 295 230<br>12-15-20 10-12-17  | 394 306<br>14-17-23 11-14-19  | 493 382<br>16-19-26 12-16-22  | 590 460<br>17-22-29 13-17-23   | 690 535<br>18-22-31 14-18-25   | 788 612<br>19-24-33 15-19-26   | 887 688<br>22-25-35 16-22-29   |
|                                                                                        |  3A1 |                                                                                        | CFM/SIDE<br>THROW, FT.        | 410 230<br>15-18-25 10-12-17  | 547 306<br>17-22-30 11-14-19  | 684 382<br>19-24-34 12-16-22  | 820 460<br>22-26-36 13-17-23   | 957 535<br>22-28-39 14-18-25   | 1094 612<br>24-30-42 15-19-26  | 1231 688<br>25-32-44 16-22-29  |
|                                                                                        |  3A2 |                                                                                        | CFM/SIDE<br>THROW, FT.        | 375 300<br>15-18-25 11-13-18  | 500 400<br>17-22-30 13-15-22  | 625 500<br>19-24-34 15-17-24  | 750 600<br>22-26-36 16-18-26   | 875 700<br>22-28-39 17-19-28   | 1000 800<br>24-30-42 18-22-30  | 1125 900<br>25-32-44 19-22-32  |
|                                                                                        |  2A  |                                                                                        | CFM/SIDE<br>THROW, FT.        | 525<br>16-19-28               | 700<br>18-22-32               | 875<br>20-25-36               | 1050<br>22-28-39               | 1225<br>23-30-42               | 1400<br>25-32-44               | 1575<br>28-34-47               |
|                                                                                        |  2B  |                                                                                        | CFM/SIDE<br>THROW, FT.        | 525<br>16-19-28               | 700<br>18-22-32               | 875<br>20-25-36               | 1050<br>22-28-39               | 1225<br>23-30-42               | 1400<br>25-32-44               | 1575<br>28-34-47               |
|                                                                                        |  2C  |  2D | CFM/SIDE<br>THROW, FT.        | 591 459<br>17-22-30 14-17-24  | 788 612<br>20-24-34 16-19-28  | 986 764<br>23-28-39 18-22-32  | 1180 920<br>24-30-41 19-23-34  | 1380 1070<br>26-32-44 22-25-36 | 1576 1224<br>29-35-47 22-26-39 | 1774 1376<br>31-37-50 24-29-41 |
|  2E |  2F  | CFM/SIDE<br>THROW, FT.                                                                 | 591 459<br>17-22-30 14-17-24  | 788 612<br>20-24-34 16-19-28  | 986 764<br>23-28-39 18-22-32  | 1180 920<br>24-30-41 19-23-34 | 1380 1070<br>26-32-44 22-25-36 | 1576 1224<br>29-35-47 22-26-39 | 1774 1376<br>31-37-50 24-29-41 |                                |
|  1A |  1B  | CFM/SIDE<br>THROW, FT.                                                                 | 1050<br>20-25-35              | 1400<br>23-29-40              | 1750<br>26-33-45              | 2100<br>29-35-49              | 2450<br>31-38-52               | 2800<br>33-40-51               | 3150<br>35-43-60               |                                |

#### Notes:

- Core style 4E is sized to give equal flow as near as possible in directions A and B.
  - For core styles 1A, 1B, 2A and 2B, the "A" direction is shown. Throw correction factor for "B" direction is:  $A \times .82 = B$ .
- For performance notes, see page D60.

## Performance Data

### Model 6400 • Rectangular Neck

| NOMINAL<br>NECK<br>SIZE               | BLOW<br>PATTERNS  | NECK VEL.<br>VP<br>TP  | 300<br>.006<br>.029 | 400<br>.010<br>.051 | 500<br>.016<br>.080 | 600<br>.022<br>.116 | 700<br>.031<br>.157 | 800<br>.040<br>.205 | 900<br>.050<br>.260 |
|---------------------------------------|-------------------|------------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| 30<br>x<br>21<br><br>4.375<br>SQ. FT. | RETURN<br>FACTORS | —SP=3.1 TP<br>NC + 8   | 1310<br>16          | 1750<br>23          | 2185<br>29          | 2625<br>34          | 3060<br>38          | 3500<br>41          | 3935<br>44          |
|                                       | 4B  4C            | CFM/SIDE<br>THROW, FT. | A B                 | A B                 | A B                 | A B                 | A B                 | A B                 | A B                 |
|                                       | 4E                | CFM/SIDE<br>THROW, FT. | A                   | A                   | A                   | A                   | A                   | A                   | A                   |
|                                       | 3A1               | CFM/SIDE<br>THROW, FT. | A                   | A                   | A                   | A                   | A                   | A                   | A                   |
|                                       | 3A2               | CFM/SIDE<br>THROW, FT. | A                   | A                   | A                   | A                   | A                   | A                   | A                   |
|                                       | 2A  2B            | CFM/SIDE<br>THROW, FT. | A                   | A                   | A                   | A                   | A                   | A                   | A                   |
|                                       | 2C  2D  2E  2F    | CFM/SIDE<br>THROW, FT. | A                   | A                   | A                   | A                   | A                   | A                   | A                   |
|                                       | 1A  1B            | CFM/SIDE<br>THROW, FT. | A                   | A                   | A                   | A                   | A                   | A                   | A                   |
| 36<br>x<br>21<br><br>5.25<br>SQ. FT.  | RETURN<br>FACTORS | —SP=3.4 TP<br>NC + 8   | 1575<br>16          | 2100<br>24          | 2625<br>30          | 3150<br>34          | 3675<br>38          | 4200<br>42          | 4725<br>45          |
|                                       | 4B  4C            | CFM/SIDE<br>THROW, FT. | A B                 | A B                 | A B                 | A B                 | A B                 | A B                 | A B                 |
|                                       | 4E                | CFM/SIDE<br>THROW, FT. | A                   | A                   | A                   | A                   | A                   | A                   | A                   |
|                                       | 3A1               | CFM/SIDE<br>THROW, FT. | A                   | A                   | A                   | A                   | A                   | A                   | A                   |
|                                       | 3A2               | CFM/SIDE<br>THROW, FT. | A                   | A                   | A                   | A                   | A                   | A                   | A                   |
|                                       | 2A  2B            | CFM/SIDE<br>THROW, FT. | A                   | A                   | A                   | A                   | A                   | A                   | A                   |
|                                       | 2C  2D  2E  2F    | CFM/SIDE<br>THROW, FT. | A                   | A                   | A                   | A                   | A                   | A                   | A                   |
|                                       | 1A  1B            | CFM/SIDE<br>THROW, FT. | A                   | A                   | A                   | A                   | A                   | A                   | A                   |
| 30<br>x<br>24<br><br>5.0<br>SQ. FT.   | RETURN<br>FACTORS | —SP=3.1 TP<br>NC + 8   | 1500<br>17          | 2000<br>25          | 2500<br>30          | 3000<br>35          | 3500<br>39          | 4000<br>43          | 4500<br>46          |
|                                       | 4B  4C            | CFM/SIDE<br>THROW, FT. | A B                 | A B                 | A B                 | A B                 | A B                 | A B                 | A B                 |
|                                       | 4E                | CFM/SIDE<br>THROW, FT. | A                   | A                   | A                   | A                   | A                   | A                   | A                   |
|                                       | 3A1               | CFM/SIDE<br>THROW, FT. | A                   | A                   | A                   | A                   | A                   | A                   | A                   |
|                                       | 3A2               | CFM/SIDE<br>THROW, FT. | A                   | A                   | A                   | A                   | A                   | A                   | A                   |
|                                       | 2A  2B            | CFM/SIDE<br>THROW, FT. | A                   | A                   | A                   | A                   | A                   | A                   | A                   |
|                                       | 2C  2D  2E  2F    | CFM/SIDE<br>THROW, FT. | A                   | A                   | A                   | A                   | A                   | A                   | A                   |
|                                       | 1A  1B            | CFM/SIDE<br>THROW, FT. | A                   | A                   | A                   | A                   | A                   | A                   | A                   |

#### Notes:

- Core style 4E is sized to give equal flow as near as possible in directions A and B.
- For core styles 1A, 1B, 2A and 2B, the "A" direction is shown. Throw correction factor for "B" direction is:  $A \times .82 = B$ .

For performance notes, see page D60.

D

CEILING DIFFUSERS

## Performance Data

### Model 6400 • Rectangular Neck

| NOMINAL<br>NECK<br>SIZE             | BLOW<br>PATTERNS                    | NECK VEL.<br>VP<br>TP  | 300<br>.006<br>.029           | 400<br>.010<br>.051            | 500<br>.016<br>.080            | 600<br>.022<br>.116            | 700<br>.031<br>.157            | 800<br>.040<br>.205            | 900<br>.050<br>.260            |
|-------------------------------------|-------------------------------------|------------------------|-------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| 36<br>x<br>24<br><br>6.0<br>SQ. FT. | RETURN FACTORS —SP=3.3 TP<br>NC + 8 | CFM<br>NC              | 1800<br>18                    | 2400<br>25                     | 3000<br>31                     | 3600<br>36                     | 4200<br>40                     | 4800<br>43                     | 5400<br>46                     |
|                                     | 4B  4C                              | CFM/SIDE<br>THROW, FT. | 600 300<br>17-22-30 11-13-18  | 800 400<br>20-24-34 13-15-22   | 1000 500<br>23-28-39 15-17-24  | 1200 600<br>24-30-41 16-18-26  | 1400 700<br>26-32-44 17-19-28  | 1600 800<br>29-35-47 18-22-30  | 1800 900<br>31-37-50 19-22-32  |
|                                     | 4E                                  | CFM/SIDE<br>THROW, FT. | 450 450<br>15-18-25 15-18-25  | 600 600<br>17-22-30 17-22-30   | 750 750<br>19-24-34 19-24-34   | 900 900<br>22-26-36 22-26-36   | 1050 1050<br>22-28-39 22-28-39 | 1200 1200<br>24-30-42 24-30-42 | 1350 1350<br>25-32-41 25-32-44 |
|                                     | 3A1                                 | CFM/SIDE<br>THROW, FT. | 750 300<br>18-22-32 11-13-18  | 1000 400<br>22-25-36 13-15-22  | 1250 500<br>24-29-41 15-17-24  | 1500 600<br>26-32-44 16-18-26  | 1750 700<br>28-34-47 17-19-28  | 2000 800<br>30-36-50 18-22-30  | 2250 900<br>32-38-53 19-22-32  |
|                                     | 3A2                                 | CFM/SIDE<br>THROW, FT. | 676 562<br>16-19-28 14-17-24  | 900 750<br>18-22-32 16-19-28   | 1125 937<br>20-25-36 18-22-32  | 1350 1125<br>22-28-39 19-23-34 | 1575 1312<br>23-30-42 22-25-36 | 1800 1500<br>25-32-44 22-26-39 | 2025 1687<br>28-34-47 24-29-41 |
|                                     | 2A<br>2B                            | CFM/SIDE<br>THROW, FT. | 900<br>19-24-33               | 1200<br>22-28-38               | 1500<br>25-32-43               | 1800<br>28-34-46               | 2100<br>30-36-50               | 2400<br>32-39-53               | 2700<br>34-41-57               |
|                                     | 2C  2E                              | CFM/SIDE<br>THROW, FT. | 1200 600<br>22-25-37 15-18-25 | 1600 800<br>24-30-42 17-22-30  | 2000 1000<br>28-34-48 19-24-34 | 2400 1200<br>30-36-51 22-26-36 | 2800 1400<br>32-39-56 22-28-39 | 3200 1600<br>34-42-58 24-30-42 | 3600 1800<br>37-44-63 25-32-44 |
|                                     | 1A<br>1B                            | CFM/SIDE<br>THROW, FT. | 1800<br>24-30-41              | 2400<br>28-34-47               | 3000<br>32-39-53               | 3600<br>34-41-58               | 4200<br>36-44-62               | 4800<br>39-47-67               | 5400<br>41-50-72               |
| 36<br>x<br>30<br><br>7.5<br>SQ. FT. | RETURN FACTORS —SP=3.4 TP<br>NC + 8 | CFM<br>NC              | 2250<br>19                    | 3000<br>26                     | 3750<br>32                     | 4500<br>37                     | 5250<br>41                     | 6000<br>44                     | 6750<br>47                     |
|                                     | 4B  4C                              | CFM/SIDE<br>THROW, FT. | 657 468<br>17-22-30 12-15-20  | 875 625<br>20-24-34 14-17-23   | 1093 782<br>23-28-39 16-19-26  | 1313 937<br>24-30-41 17-22-29  | 1532 1093<br>26-32-44 18-22-31 | 1750 1250<br>29-35-47 19-24-33 | 1969 1406<br>31-37-50 22-25-35 |
|                                     | 3A1                                 | CFM/SIDE<br>THROW, FT. | 890 468<br>19-24-33 12-15-20  | 1187 625<br>22-28-38 14-17-23  | 1484 782<br>25-32-43 16-19-26  | 1781 937<br>28-34-46 17-22-29  | 2078 1093<br>30-36-50 18-22-31 | 2375 1250<br>32-39-53 19-24-33 | 2672 1406<br>34-41-57 22-25-35 |
|                                     | 3A2                                 | CFM/SIDE<br>THROW, FT. | 787 675<br>18-22-32 13-16-22  | 1050 900<br>22-25-36 15-18-25  | 1312 1125<br>24-29-41 17-20-29 | 1575 1350<br>26-32-44 18-22-32 | 1837 1575<br>28-34-47 19-23-34 | 2100 1800<br>30-36-50 22-25-36 | 2362 2025<br>32-38-53 22-28-38 |
|                                     | 2A<br>2B                            | CFM/SIDE<br>THROW, FT. | 1125<br>20-25-35              | 1500<br>23-29-40               | 1875<br>26-33-45               | 2250<br>29-35-49               | 2625<br>31-38-52               | 3000<br>33-40-57               | 3375<br>35-43-60               |
|                                     | 2C  2E                              | CFM/SIDE<br>THROW, FT. | 1312 938<br>22-25-37 17-22-30 | 1750 1250<br>24-30-42 20-24-34 | 2188 1562<br>28-34-48 23-28-39 | 2625 1875<br>30-36-51 24-30-41 | 3063 2187<br>32-39-56 26-32-44 | 3500 2500<br>34-42-58 29-35-47 | 3938 2812<br>37-44-63 31-37-50 |
|                                     | 1A<br>1B                            | CFM/SIDE<br>THROW, FT. | 2250<br>24-30-41              | 3000<br>28-34-47               | 3750<br>32-39-53               | 4500<br>34-41-58               | 5250<br>36-44-62               | 6000<br>39-47-67               | 6750<br>41-50-72               |

#### Notes:

- Core style 4E is sized to give equal flow as near as possible in directions A and B.
- For core styles 1A, 1B, 2A and 2B, the "A" direction is shown. Throw correction factor for "B" direction is: A x .82 = B.

**CFM** - cubic feet per minute

**VP** - velocity pressure - inches w.g.

**TP** - total pressure - inches w.g.

**T** - throw in feet

**NC** - Noise Criteria (values) based on 10 dB room absorption, re 10<sup>-12</sup> watts.

**Neck Velocity** - feet per minute

#### Performance Notes:

1. Throw values are given for terminal velocities of 150, 100 and 50 fpm under isothermal conditions. Data applies to ceiling mounted units when the maximum coanda effect applies. When no ceiling is present (exposed duct), throws are reduced by approximately 30% with a downward projection of approximately 30 degrees.

2. Performance data as tabulated is for supply air conditions. Correction factors for return air application - see next page.

3. Correction factors for round inlets - see next page.

4. Data derived from tests conducted in accordance with ANSI/ASHRAE Standard 70 - 1991.

## Performance Data Corrections

### Model 6400

#### CORRECTION FACTORS WITH SQUARE TO ROUND INLET ADAPTOR – TABLE 2

- Add the NC correction factor from Table 2 and the NC value listed in the performance tables.
- Multiply the correction factor from Table 2 by the listed total pressure in the performance tables.
- Multiply the correction factor from Table 2 by the listed throws in the performance tables.

#### Example:

12" x 12" unit with 10" round adaptor handling 500 cfm supply air. (Page D47).

- $NC = 23 + 7 = 30$
- Total Pressure =  $.08 \times 1.65 = 0.132$
- Throw =  $15 \times 1.15 = 17.25$  feet @ 50 fpm terminal velocity.

**TABLE 2** Correction Factors for SR Adaptors

| SQUARE INLET | ROUND INLET | NC (add) | TP (multiply) | THROW (multiply) |      |      |
|--------------|-------------|----------|---------------|------------------|------|------|
|              |             |          |               | 150              | 100  | 50   |
| 6 x 6        | 5           | 7        | 1.65          | 1.10             | 1.10 | 1.15 |
| 9 x 9        | 6           | 17       | 3.50          | 1.15             | 1.15 | 1.20 |
| 9 x 9        | 8           | 4        | 1.40          | 1.10             | 1.10 | 1.10 |
| 12 x 12      | 8           | 17       | 3.50          | 1.15             | 1.15 | 1.20 |
| 12 x 12      | 10          | 7        | 1.65          | 1.10             | 1.10 | 1.15 |
| 15 x 15      | 10          | 17       | 3.50          | 1.15             | 1.15 | 1.20 |
| 15 x 15      | 12          | 9        | 1.90          | 1.10             | 1.10 | 1.15 |
| 15 x 15      | 14          | 3        | 1.25          | 1.05             | 1.05 | 1.10 |
| 18 x 18      | 12          | 17       | 3.50          | 1.15             | 1.15 | 1.20 |
| 18 x 18      | 14          | 10       | 2.00          | 1.10             | 1.10 | 1.15 |
| 18 x 18      | 16          | 5        | 1.45          | 1.10             | 1.10 | 1.10 |
| 21 x 21      | 14          | 17       | 3.70          | 1.15             | 1.15 | 1.20 |
| 21 x 21      | 16          | 11       | 2.25          | 1.10             | 1.10 | 1.15 |
| 21 x 21      | 18          | 6        | 1.60          | 1.10             | 1.10 | 1.10 |
| 21 x 21      | 20          | 3        | 1.20          | 1.05             | 1.05 | 1.10 |
| 24 x 24      | 16          | 17       | 3.50          | 1.15             | 1.15 | 1.20 |
| 24 x 24      | 18          | 12       | 2.35          | 1.10             | 1.10 | 1.15 |
| 24 x 24      | 20          | 7        | 1.65          | 1.10             | 1.10 | 1.15 |

#### CORRECTION FACTORS FOR RETURN INLET

If the unit is used as a return inlet, the performance data is obtained by applying the return corrections, as follows:

- Add the NC correction at the left side of the table to the NC value listed in the performance table.
- Multiply the SP factor at the left side of the table by the total pressure (TP) listed at the top of the table.

#### Example:

12" x 12" unit handling 600 cfm of return air. (Page D47).

- Return NC =  $28 + 4 = 32$ .
- Return negative SP =  $1.3 \times (-.116) = -.151$ .

#### RECOMMENDED MAXIMUM AIRFLOW – TABLE 3

Diffuser mounting height and air temperature differential ( $\Delta T$ ) are both to be considered when selecting diffusers. As air travels from a diffuser, room air is entrained into the supply air stream and the delivery pattern thickens. If the volume or throw requirement is too great, the lower part of the supply air stream can intrude into the occupied zone causing objectionable drafts. Consult Table 3 to verify selection.

**TABLE 3** Maximum Recommended Airflow

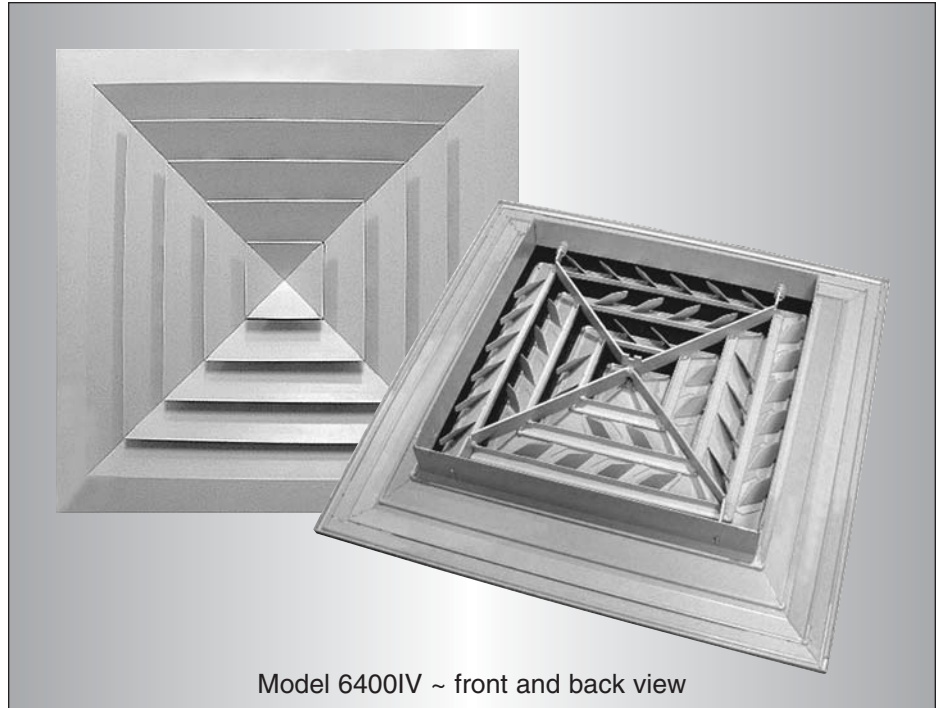
| CEILING HEIGHT (ft.) | MAXIMUM AIRFLOW PER DIFFUSER (CFM) |       |                |            | MAX. REC. COOLING TEMP. DIFFERENTIAL $\Delta T$ |
|----------------------|------------------------------------|-------|----------------|------------|-------------------------------------------------|
|                      | 4-way                              | 3-way | 2-way (2A, 2B) | 1-way & 2S |                                                 |
| 7                    | 400                                | 300   | 200            | 100        | 15°F                                            |
| 8                    | 600                                | 450   | 300            | 150        | 20°F                                            |
| 9                    | 1200                               | 900   | 600            | 300        | 25°F                                            |
| 10                   | 1800                               | 1350  | 900            | 450        | 25°F                                            |
| 12                   | 3200                               | 2400  | 1600           | 800        | 30°F                                            |
| 14                   | 4800                               | 3600  | 2400           | 1200       | 30°F                                            |
| 16                   | 6000                               | 4500  | 3000           | 1500       | 30°F                                            |

## SQUARE AND RECTANGULAR INDUCTION VANE CEILING DIFFUSERS

- LOUVERED FACE
- EXTRA HIGH CAPACITY
- 1,2,3 or 4-WAY BLOW PATTERN
- SQUARE, RECTANGULAR OR ROUND NECKS
- EXTRUDED ALUMINUM

### Model: 6400IV Fixed Pattern

- Suffix '-O' adds a steel opposed blade damper
- Suffix '-OA' adds an aluminum opposed blade damper



Model 6400IV ~ front and back view

The **Nailor 6400IV Induction Vane Pattern Ceiling Diffuser** has been specially designed for optimum performance in both heating and cooling applications. The 6400IV is a high capacity, high induction, louvered face directional diffuser that can supply large volumes of air at relatively low sound levels and pressure drops.

The diffuser features aerodynamically designed straight angled louvers on 1 1/2" (38) centers. The induction vanes, mounted on the back of each louver are also spaced on 1 1/2" (38) centers and angled at 45 degrees. Vane sets on adjacent parallel louvers run in opposite directions and cause primary air to emerge from each louver at alternating angles. The induction vanes create counter-flowing jets of turbulent discharge air that promote high induction rates and rapid temperature equalization. This high induction characteristic is ideal for VAV applications involving both high cooling and heating loads, producing superior room air mixing while minimizing the potential for uncomfortable drafts in the occupied space.

Available in a wide variety of core styles and neck sizes, a combination can be selected to suit a specified air pattern and deliver the desired volume of air to suit any particular requirement. Many frame types are also available to suit almost any mounting condition including surface mount (flat, beveled or deep drop face) and T-Bar panel types (Standard 1" (25), Fineline®, Spline, Tegal or Metal Pan Snap-in). These models therefore offer a great degree of design flexibility.

### STANDARD FEATURES:

- Spring loaded core. Removable without the use of tools.
- High neck collars for solid connection.
- Secure core attachment.
- A wide variety of frame styles to suit most ceiling applications.
- Optional extended panels to suit modular ceiling systems.
- Engineered air diffusion patterns for 1, 2, 3 or 4-way horizontal blow in a wide selection of square and rectangular neck sizes. (See page D65).
- Clean lines with no unsightly visible screws.

- Square-to-round transition collars are available (SR option).
- Optional opposed blade damper with screwdriver slot operator for square and rectangular necks. Radial opposed blade dampers are also available for round necks.

**Material:** Extruded aluminum.

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

### AVAILABLE SIZES:

Unit Size is determined by duct dimensions. Diffuser necks are undersized to suit ductwork.

Duct Sizes are available in 3" (76) increments.

Minimum size:

6" x 6" (152 x 152) square neck. 9" x 6" (229 x 152) rectangular neck (most core styles).

Maximum size:

Types S, B and D: 36" x 36" (914 x 914).

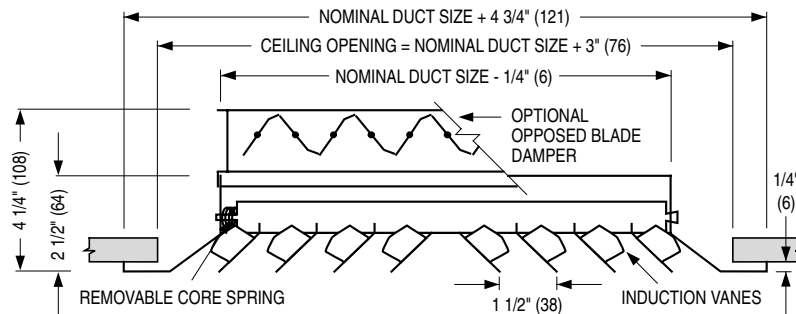
Types L, SP, TL, M and F: see page D63.



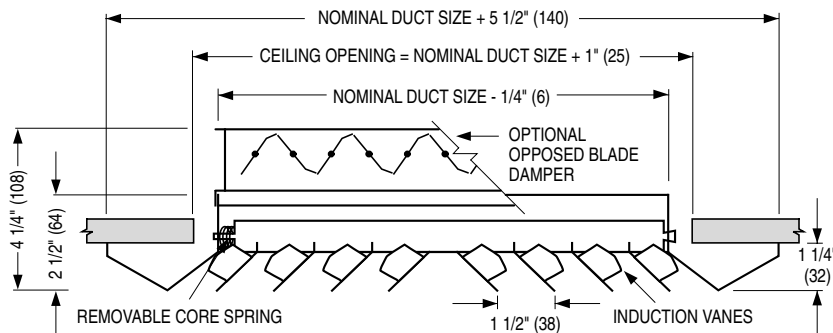
## Dimensional Data and Frame Types

### Model Series 6400IV

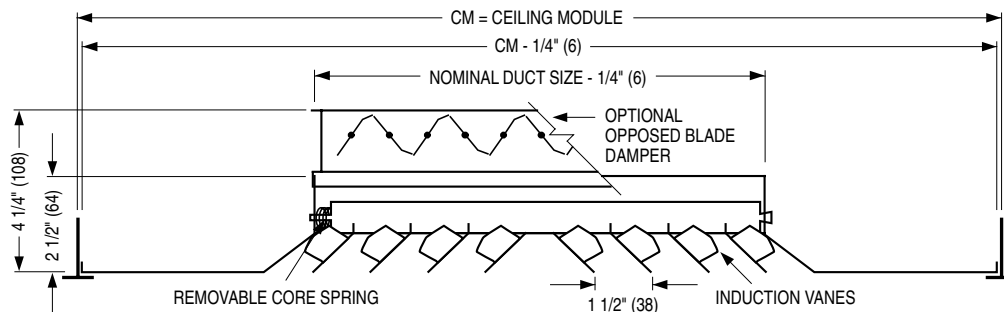
#### Type S Surface Mount Frame



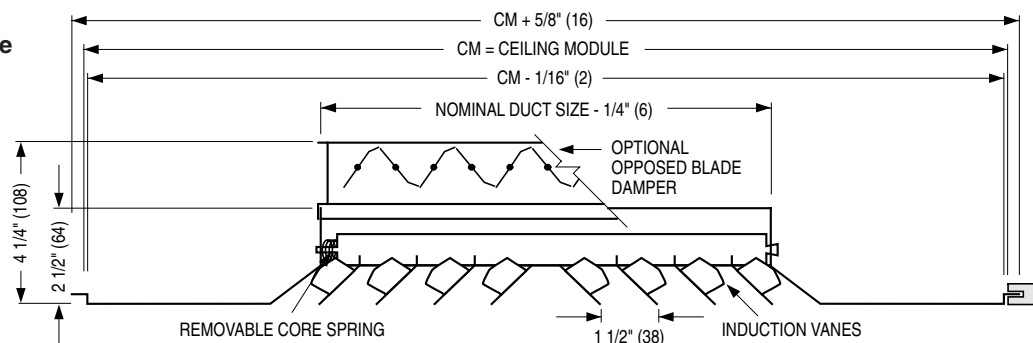
#### Type B Beveled Drop Face Frame



#### Type L Lay-In T-Bar Frame



#### Type SP Spline Frame



SPLINE TYPE DIFFUSER FOR ONE-DIRECTIONAL EXPOSED T-BAR LAY-IN GRID OR FOR CONCEALED T-BAR GRID.  
(SPLINES ON TWO OPPOSITE SIDES. STEEL LIFT BRACKETS ON THE OTHER TWO SIDES).

#### Extended Panel Diffusers Frame Types L, SP, M, TL and F

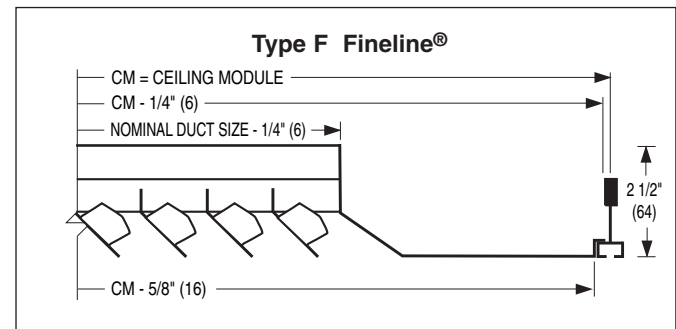
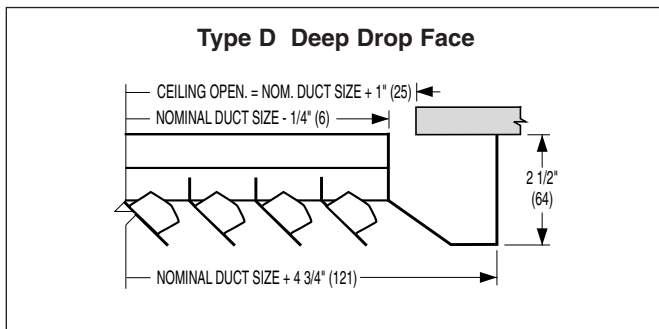
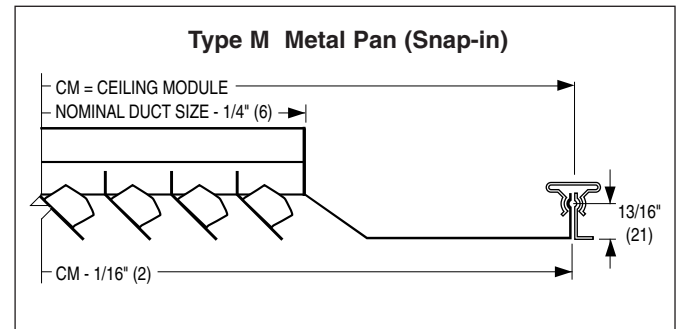
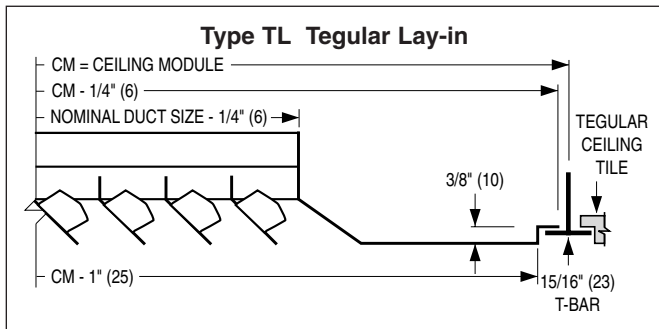
If the ceiling module is more than 3" (76) larger than the neck size of the diffuser in either or both dimensions, a steel module-sized extended panel will be added. Aluminum is available as an option.

See the table at right for the maximum duct size for each module size.

| Ceiling Module Size  | Maximum Duct Size Frames L, SP, and M | Maximum Duct Size Frames TL and F |
|----------------------|---------------------------------------|-----------------------------------|
| 12 x 12 (305 x 305)  | 9 x 9 (229 x 229)                     | 6 x 6 (152 x 152)                 |
| 20 x 20 (508 x 508)  | 15 x 15 (381 x 381)                   | —                                 |
| 24 x 12 (610 x 305)  | 21 x 9 (533 x 229)                    | 18 x 6 (457 x 152)                |
| 24 x 24 (610 x 610)  | 21 x 21 (533 x 533)                   | 18 x 18 (457 x 457)               |
| 48 x 24 (1219 x 610) | 45 x 21 (1143 x 533)                  | —                                 |

Dimensions are in inches (mm).

## Dimensional Data and Frame Types Model Series 6400IV

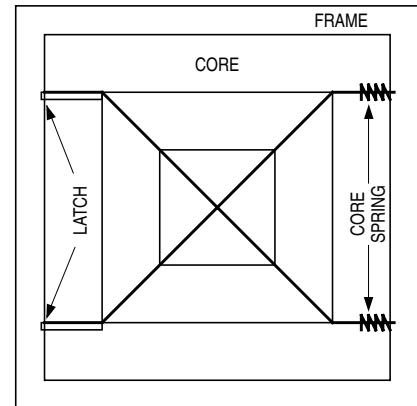


### SPRING LOADED REMOVABLE CORE

- Standard feature.
- Engineered design permits fast and easy removal for speedy "through the neck" installation in hard duct drops and for access to optional air balancing devices.
- No tools required.
- No unsightly, retaining screws visible to spoil smooth aesthetic lines.
- Latching mechanism ensures core remains securely in place.

### HOW TO REMOVE CORE

To remove diffuser core, lift the complete core assembly to disengage the latch, push the core sideways against the core springs, pull down the core slightly and remove. Reverse procedure to re-install.



## Standard Core Styles Model 6400IV

Contact factory for special core configurations.

### SIZES AVAILABLE



Type 1S



Type 2S



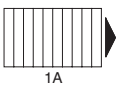
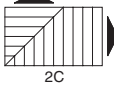
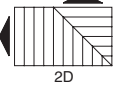
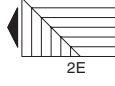
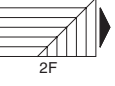
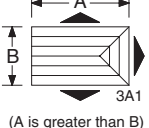
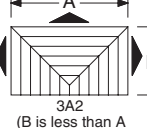
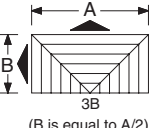
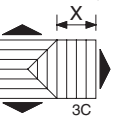
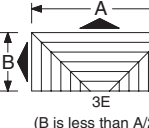
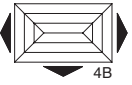
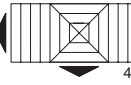
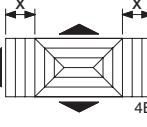
Type 2G



Type 3A



Type 4A

|                       | SQUARE                                                                              | RECTANGULAR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | CORE                                     | MINIMUM                                                                                                                                                                | MAXIMUM                                                                                                                                                                            |
|-----------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| →<br>1-WAY            |    |                                                                                                                                                                                                                                                                                                                                                                                       | 1S<br>1A<br>1B                           | 6 x 6<br>(152 x 152)<br>9 x 6<br>(229 x 152)<br>9 x 6<br>(229 x 152)                                                                                                   | 36 x 36<br>(914 x 914)<br>36 x 33<br>(914 x 838)<br>36 x 33<br>(914 x 838)                                                                                                         |
| ↕<br>2-WAY            |    |                                                                                                                                                                                                                                                                                                                                                                                       | 2S<br>2A<br>2B                           | 6 x 6<br>(152 x 152)<br>9 x 6<br>(229 x 152)<br>9 x 6<br>(229 x 152)                                                                                                   | 36 x 36<br>(914 x 914)<br>36 x 33<br>(914 x 838)<br>36 x 33<br>(914 x 838)                                                                                                         |
| ↖↗<br>2-WAY<br>CORNER |    |  <br>                                                                                                                                                                                                               | 2G<br>2C<br>2D<br>2E<br>2F               | 6 x 6<br>(152 x 152)<br>9 x 6<br>(229 x 152)<br>9 x 6<br>(229 x 152)<br>9 x 6<br>(229 x 152)<br>9 x 6<br>(229 x 152)                                                   | 36 x 36<br>(914 x 914)<br>36 x 33<br>(914 x 838)<br>36 x 33<br>(914 x 838)<br>36 x 33<br>(914 x 838)<br>36 x 33<br>(914 x 838)                                                     |
| ↕↔<br>3-WAY           |  |  <br>(A is greater than B) (B is less than A but greater than A/2)<br> <br>(B is equal to A/2)<br><br>(B is less than A/2) | 3A<br>3A1<br>3A2<br>3B<br>3C<br>3E<br>3H | 6 x 6<br>(152 x 152)<br>9 x 6<br>(229 x 152)<br>9 x 6<br>(229 x 152)<br>12 x 6<br>(305 x 152)<br>9 x 6<br>(229 x 152)<br>15 x 6<br>(381 x 152)<br>6 x 6<br>(152 x 152) | 36 x 36<br>(914 x 914)<br>36 x 33<br>(914 x 838)<br>36 x 33<br>(914 x 838)<br>36 x 18<br>(914 x 457)<br>36 x 33<br>(914 x 838)<br>36 x 15<br>(914 x 381)<br>36 x 36<br>(914 x 914) |
| ↕↔↕↔<br>4-WAY         |  |  <br>                                                                                                                                                                                                                                                                                          | 4A<br>4B<br>4C<br>4E                     | 6 x 6<br>(152 x 152)<br>9 x 6<br>(229 x 152)<br>12 x 6<br>(305 x 152)<br>15 x 6<br>(381 x 152)                                                                         | 36 x 36<br>(914 x 914)<br>36 x 33<br>(914 x 838)<br>36 x 30<br>(914 x 762)<br>36 x 27<br>(914 x 686)                                                                               |

Dimensions are in inches (mm).

### Notes:

1. Duct sizes are available in 3" (76) increments.
2. Specify the "x" dimension for 3C and 4E patterns.  
These are non-standard, custom fabrication core styles.
3. Patterns are shown in plan view (looking down into inlet).

## HOW TO SPECIFY OR TO ORDER

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

### High Capacity Induction Vane Pattern Ceiling Diffusers – Model 6400IV

**6400IV - O - 9 x 9 - 24 x 24 - L - AW - 4A - SR08**

#### MODEL

- Aluminum Fixed Pattern 6400IV

#### DAMPER

- No Damper (default) —  
 - Opposed Blade (steel) O  
 - Opposed Blade (alum.) OA

#### NECK SIZE (W X H)

#### PANEL SIZE (TYPES L, SP, M, TL AND F ONLY)

| Imperial (inches) | Metric (mm) |
|-------------------|-------------|
| - 12 x 12         | 300 x 300   |
| - 20 x 20         | 500 x 500   |
| - 24 x 12         | 600 x 300   |
| - 24 x 24         | 600 x 600   |
| - 48 x 24         | 1200 x 600  |

#### FRAME TYPE

- Surface Mount Flat S  
 - T-Bar Lay-In L  
 - Spline SP  
 - Surface Mount Beveled B  
 - Metal Pan M  
 - Tegular (Drop Face) TL  
 - Fineline® F  
 - Surface Mount (Deep Drop) D

#### ACCESSORIES

- None (default) —  
 - Square to Round Transition Collar (04 thru 20 specify) SR  
 - Earthquake Tabs EQT  
 - Alum. Extended Panel Option PLA

#### AIR BALANCING DEVICES

##### Rectangular Neck:

- Equalizing Grid (long) EGL  
 - Equalizing Grid (short) EGS  
 - Damper/Equal. Grid (long) DEGL  
 - Damper/Equal. Grid (short) DEGS

##### Round Neck:

- Radial Sliding Blade Damper 4250  
 - Radial Opposed Blade Damper 4275  
 - Butterfly Damper 4675  
 - Equalizing Grid EGR  
 - Damper/Equalizing Grid DEGR

#### CORE STYLE (See page D65).

#### FINISH

- Appliance White (default) AW  
 - Aluminum AL  
 - Special Custom Color SP

#### Note:

1. Consult text as to limitations of panel, neck size and core style combinations.

#### SUGGESTED SPECIFICATION:

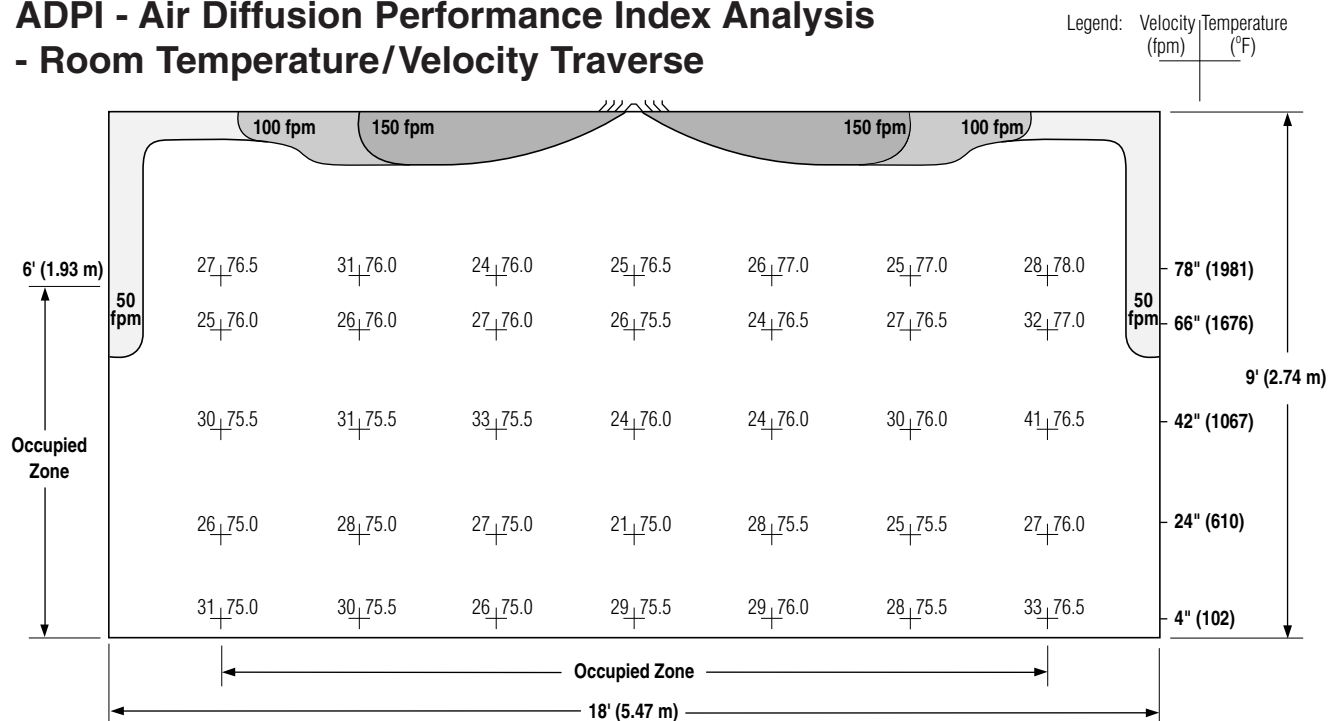
Furnish and install **Nailor Model 6400IV High Capacity Induction Vane Pattern Ceiling Diffusers** of the size and type shown on the plans and air distribution schedules. Diffusers shall be designed for optimum performance in both heating and cooling applications. Diffuser shall be of extruded aluminum construction with miscellaneous steel components. Blades and frame shall have reinforced staked mitered corners for high quality appearance and function. Diffusers shall consist of an outer frame assembly to suit the application shown, which includes an integral collar for connection to the square or rectangular duct size indicated. A square to round transition collar shall be supplied where indicated to facilitate attachment of round duct.

An inner core assembly consisting of fixed deflection louvers on 1 1/2" (38) centers, capable of producing either a 1, 2, 3 or 4-way horizontal airflow discharge pattern as indicated on the plans shall be securely held in place by a spring loaded mechanism without the need for visible screws. The deflection angle of each louver shall be constant (diffuser designs with a horizontal lip at the point of discharge are not acceptable). Aluminum induction vanes on 1 1/2" (38) centers shall be mounted in extrusion slots and welded to the rear of each louver of the inner core. The vanes shall be orientated at 45° in opposite direction on alternating louvers to promote rapid temperature equalization and ensure high induction and rapid mixing of the primary and room air. The core shall be fully removable in the field without tools for the purpose of installation, cleaning or damper adjustment. Diffuser finish shall 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) shall be provided with all units.

The manufacturer shall provide published performance data for the diffuser, which shall be tested in accordance with ANSI/ASHRAE Standard 70-1991.

## ADPI - Air Diffusion Performance Index Analysis - Room Temperature/Velocity Traverse



**Figure 1. ADPI Analysis.**

Air Diffusion Performance Index (ADPI) is a single number rating of air diffuser performance when in cooling mode. ADPI relates the space conditions of local traverse temperatures and velocities to occupants' thermal comfort. Extensive studies have determined relationships between local temperatures, velocities and comfort reaction. On the basis of the temperature and velocity at a specific point, an effective draft temperature can be calculated for that location.

Equation for Effective Draft Temperature:

$$\emptyset = (t_x - t_c) - 0.07 (V_x - 30)$$

where:  $\emptyset$  = effective draft temperature

$t_x$  = local air temperature (°F).

$t_c$  = ambient temperature (setpoint, °F).

$V_x$  = local air velocity (fpm).

Research has shown that a high percentage of people are comfortable when the effective draft temperature is between -3 and +2 at a velocity less than 70 fpm. ADPI is defined as the percentage of locations in the occupied space, which meet this comfort criteria and therefore represents the overall comfort level of an occupied space. The higher the ADPI number, the higher the comfort level in the space. For most commercial applications including offices, ADPI values of 80 or higher are desired.

ADPI values vary as the ratio of the throw (T) to the characteristic length (L) vary, for a particular diffuser and flow rate. Throw values (T) at 50 fpm terminal velocity are used for diffusers in most commercial and institutional buildings. Length (L) is measured from the center of the

diffuser to the closest wall, or to the meeting point with the throw of another diffuser.

Ranges of T/L to yield desired values of the ADPI for various types of supply air outlet are provided in the Space Air Diffusion Chapter in the ASHRAE Fundamentals Handbook. Using louvered ceiling diffusers, for an ADPI greater than 80, the suggested range of  $T_{50}/L$  is 1.0 – 3.4.

These T/L guideline values were developed from testing a particular air outlets' ADPI at several cooling room loads via the method reported in ANSI/ASHRAE Standard 113 1990, "Method of Testing for Room Air Diffusion." The ADPI T/L technique uses isothermal throw data as cataloged and determined under ANSI/ASHRAE Standard 70 "Method of Testing for Rating the Performance of Air Outlets and Inlets."

Figure 1 is an example in a single plane of a temperature and velocity traverse to determine the ADPI for a space, based upon the method prescribed in ANSI/ASHRAE Standard 113.

### Notes on Figure 1.

Test Room Size: 18' x 24' x 9'

Diffuser: 6400IV, 12" x 12" neck, 4-way pattern.

Supply Air: 400 cfm @ 56°F

Setpoint: 76°F (  $\Delta t$  = 20°F)

Cooling Load: 20.1 Btuh/sq.ft.

Throw: 13 ft. (@50 fpm terminal velocity)

$T_{50}/L$  = 1.45

ADPI = 100

## Application and Air Pattern Guidelines

The use of overhead ceiling diffusers is currently far and away the most popular and economical way to introduce conditioned air into an occupied space. Commercial buildings require cooling a predominant amount of the time and overhead cooling is a well understood science. Most ceiling diffusers perform extremely well, even in variable volume applications during the cooling mode.

Ceiling diffusers take advantage of a phenomenon known as the coanda or ceiling effect. A low pressure zone is developed at the ceiling and the air projection tends to stick to or hug the ceiling as it travels away from the diffuser. This characteristic of non-free air jets usually enables the ventilation of conditioned spaces without undesirable cold air drafts dropping into the occupied zone during the cooling mode. High levels of occupant comfort and satisfaction can therefore be achieved.

Conversely, overhead heating which may be required intermittently, particularly in the perimeter of a building is usually more of a compromise. The natural buoyancy of warm heating air tends to keep the air pattern up at or near the ceiling. If the air is too warm, stratification and short circuiting may result, where the air does not have an opportunity to mix well with the room air and the warmth therefore does not reach the occupied space. ASHRAE recommends a maximum temperature differential of 15°F  $\Delta T$  for comfort heating.

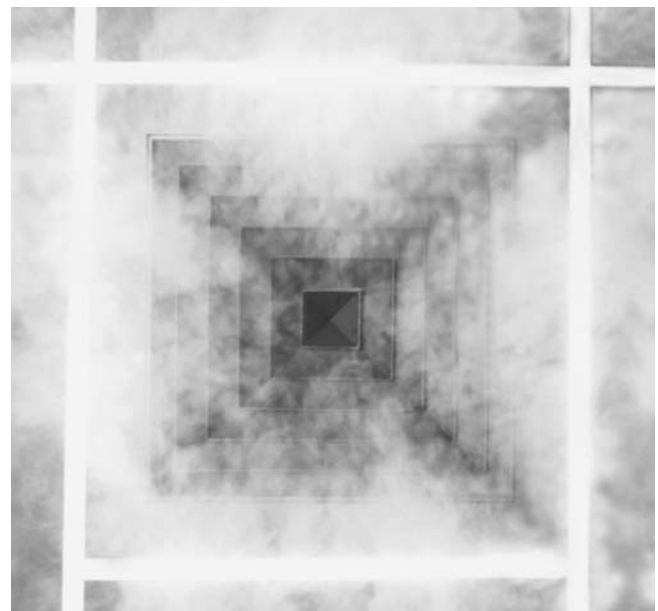
Figure 2 illustrates a traditional pattern diffuser (e.g. Nailor Model 6400) with angled louvers, developed for high capacity at low sound levels. A distinct directional (4-way) air pattern is produced with a partial downblow component, but at low flows as typically encountered in

VAV systems, the air may fall away from the ceiling or dump, producing drafts in the occupied space during cooling. Air emanates from this diffuser design at an angle of approximately 20 degrees down from the ceiling. It is therefore not recommended for ceiling heights below 10' 6" due to the possibility of excessive velocities in the occupied space. Figure 3 illustrates the currently popular pattern diffuser, which features the addition of a horizontal lip on the leading edge of the louvers (e.g. Nailor Models 6200 and 6500). This feature was added by most manufacturers to help maintain good ceiling effect at low flows during cooling when VAV systems became predominant. However this design increases the risk of stratification and short circuiting during the heating mode. The Nailor 6400IV Induction Vane Diffuser has been designed to optimize performance in both heating and cooling applications. Figure 4 illustrates a typical isovel envelope for the Nailor 6400IV diffuser. The depth of the envelope is somewhere between the aforementioned diffuser designs. Induction vanes increase turbulence as the conditioned air enters the space, resulting in an increase in room air induction and more rapid temperature equalization. Notice that the induction vanes also produce an increase in the spread of the air stream. This produces a more evenly distributed air pattern with shorter throws. Diffuser placement flexibility is therefore increased and the potential for opposing diffuser air streams colliding and entering the occupied space is reduced.

The Nailor 6400IV diffuser is therefore the perfect choice for commercial applications where comfort cooling and heating is desired.

### 6400IV Diffuser Air Pattern Smoke Test

The photo in Figure 5 illustrates how the induction vanes on a 4-way blow pattern generate turbulence and increase room air induction at the point of discharge. Rapid mixing of primary and room air and temperature equalization is achieved; resulting in gentle, draftless air movement in the occupied space, ensuring a high degree of occupant comfort.

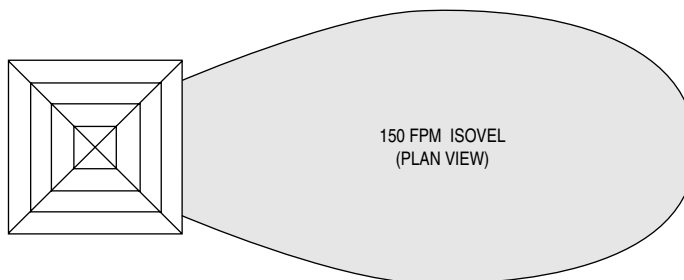
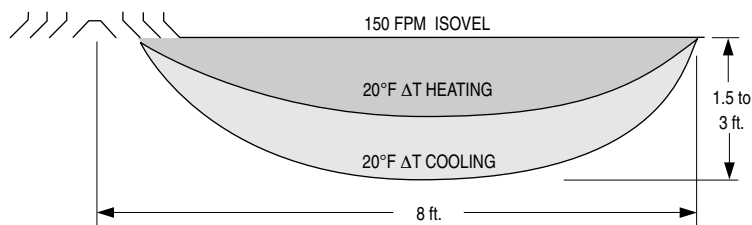


**Figure 5. Laboratory Smoke Test.**

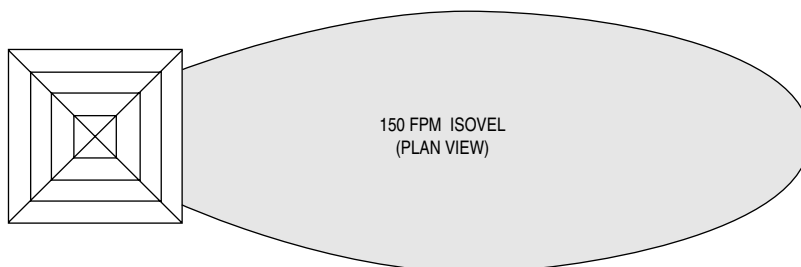
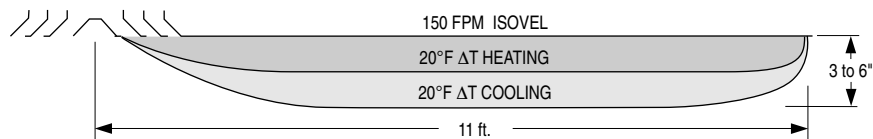
6400IV Induction Vane Diffuser, 4-way Blow Pattern.



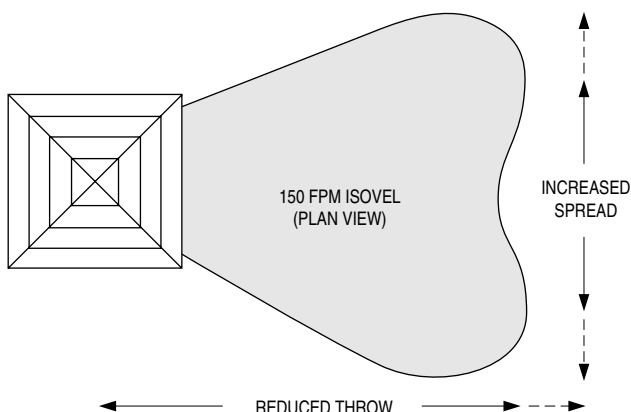
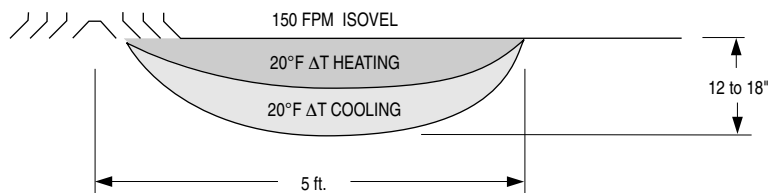
**Figure 2.**  
**Traditional Pattern Diffuser.**



**Figure 3.**  
**Pattern Diffuser with Horizontal Lip on Louvers.**



**Figure 4.**  
**6400IV Series Induction Vane Diffuser**



Note:

These illustrations are provided for guidance purposes in order to illustrate the relative difference between pattern ceiling diffusers with and without induction vanes. The 150 fpm throw isovel for a 12" x 12" neck @ 400 cfm is illustrated. A 4-way diffuser is shown, but the airstream projection is only shown in one direction for reasons of space and is the same for the other three sides.

## Performance Data

### Model 6400IV • Square Neck

### Core Style 4A • 4-way blow pattern



| Nominal Neck Size | Neck Velocity, fpm                  | 100            | 200            | 300            | 400            | 500            | 600            | 700            |
|-------------------|-------------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
|                   | Velocity Pressure<br>Total Pressure | 0.001<br>0.003 | 0.002<br>0.012 | 0.006<br>0.026 | 0.010<br>0.046 | 0.016<br>0.072 | 0.022<br>0.103 | 0.031<br>0.140 |
| 6 x 6             | Airflow, cfm                        | 25             | 50             | 75             | 100            | 125            | 150            | 175            |
|                   | Throw<br>NC                         | 1-2-2<br>—     | 2-2-4<br>—     | 2-3-5<br>—     | 3-5-7<br>—     | 3-6-8<br>15    | 4-6-10<br>21   | 4-7-12<br>26   |
| 9 x 9             | Airflow, cfm                        | 56             | 113            | 169            | 225            | 281            | 338            | 394            |
|                   | Throw<br>NC                         | 2-2-3<br>—     | 2-3-5<br>—     | 3-5-7<br>—     | 4-5-9<br>—     | 4-6-11<br>18   | 5-8-13<br>24   | 6-9-16<br>29   |
| 12 x 12           | Airflow, cfm                        | 100            | 200            | 300            | 400            | 500            | 600            | 700            |
|                   | Throw<br>NC                         | 2-2-4<br>—     | 3-4-7<br>—     | 4-5-10<br>—    | 5-7-13<br>13   | 6-8-16<br>20   | 7-10-19<br>27  | 8-11-22<br>32  |
| 15 x 15           | Airflow, cfm                        | 156            | 313            | 469            | 625            | 781            | 938            | 1094           |
|                   | Throw<br>NC                         | 2-3-5<br>—     | 3-5-8<br>—     | 4-6-12<br>—    | 6-8-15<br>15   | 7-10-19<br>22  | 8-12-23<br>29  | 9-14-26<br>34  |
| 18 x 18           | Airflow, cfm                        | 225            | 450            | 675            | 900            | 1125           | 1350           | 1575           |
|                   | Throw<br>NC                         | 3-3-6<br>—     | 4-6-10<br>—    | 6-8-15<br>—    | 7-10-19<br>16  | 9-12-24<br>23  | 10-15-28<br>30 | 12-17-33<br>35 |
| 21 x 21           | Airflow, cfm                        | 306            | 613            | 919            | 1225           | 1531           | 1838           | 2144           |
|                   | Throw<br>NC                         | 3-4-6<br>—     | 4-6-11<br>—    | 6-9-17<br>—    | 8-11-22<br>18  | 10-14-27<br>25 | 11-17-32<br>31 | 13-19-37<br>36 |
| 24 x 24           | Airflow, cfm                        | 400            | 800            | 1200           | 1600           | 2000           | 2400           | 2800           |
|                   | Throw<br>NC                         | 3-4-7<br>—     | 5-7-12<br>—    | 7-10-18<br>12  | 9-12-24<br>19  | 10-15-29<br>26 | 12-18-35<br>32 | 14-21-41<br>37 |

For performance notes, see page D77.

## Performance Data

### Model 6400IV • Square Neck

#### Core Style 3A • 3-way blow pattern



| Nominal Neck Size | Neck Velocity, fpm | 100        | 200          | 300          | 400           | 500            | 600            | 700            |
|-------------------|--------------------|------------|--------------|--------------|---------------|----------------|----------------|----------------|
|                   | Velocity Pressure  | 0.001      | 0.002        | 0.006        | 0.010         | 0.016          | 0.022          | 0.031          |
|                   | Total Pressure     | 0.003      | 0.012        | 0.026        | 0.046         | 0.072          | 0.103          | 0.140          |
| 6 x 6             | Total Airflow, cfm | 25         | 50           | 75           | 100           | 125            | 150            | 175            |
|                   | Throw (cfm) Side A | 1-1-2 (6)  | 2-2-4 (13)   | 2-3-5 (19)   | 3-4-7 (25)    | 3-5-8 (31)     | 4-5-10 (37)    | 4-6-11 (44)    |
|                   | Throw (cfm) Side B | 2-2-3 (9)  | 2-3-5 (19)   | 3-4-6 (28)   | 3-5-8 (38)    | 4-5-10 (47)    | 5-6-12 (56)    | 5-7-14 (66)    |
|                   | NC                 | —          | —            | —            | —             | 15             | 21             | 26             |
| 9 x 9             | Total Airflow, cfm | 56         | 113          | 169          | 225           | 281            | 338            | 394            |
|                   | Throw (cfm) Side A | 2-2-3 (14) | 2-3-5 (28)   | 3-4-7 (42)   | 4-5-9 (56)    | 4-6-11(70)     | 5-7-13 (84)    | 6-8-15 (99)    |
|                   | Throw (cfm) Side B | 2-2-4 (21) | 3-4-7 (43)   | 4-5-9 (64)   | 5-7-12 (84)   | 6-8-15 (105)   | 7-9-18 (127)   | 8-11-21 (148)  |
|                   | NC                 | —          | —            | —            | —             | 18             | 24             | 29             |
| 12 x 12           | Total Airflow, cfm | 100        | 200          | 300          | 400           | 500            | 600            | 700            |
|                   | Throw (cfm) Side A | 2-2-4 (25) | 3-4-7 (50)   | 4-5-10 (75)  | 5-7-13 (100)  | 6-8-16 (125)   | 7-10-19 (150)  | 8-11-22 (175)  |
|                   | Throw (cfm) Side B | 2-3-5 (38) | 3-5-8 (75)   | 5-6-12 (113) | 6-8-16 (150)  | 7-10-19 (188)  | 8-12-23 (225)  | 10-14-27 (263) |
|                   | NC                 | —          | —            | —            | 13            | 20             | 27             | 32             |
| 15 x 15           | Total Airflow, cfm | 156        | 313          | 469          | 625           | 781            | 938            | 1094           |
|                   | Throw (cfm) Side A | 2-3-5 (39) | 3-5-8 (78)   | 4-6-12 (117) | 6-8-15 (156)  | 7-10-19 (195)  | 8-12-23 (235)  | 9-14-26 (273)  |
|                   | Throw (cfm) Side B | 3-3-6 (59) | 4-6-10 (117) | 6-8-15 (176) | 7-10-20 (234) | 9-13-24 (293)  | 10-15-29 (352) | 12-17-34 (410) |
|                   | NC                 | —          | —            | —            | 15            | 22             | 29             | 34             |
| 18 x 18           | Total Airflow, cfm | 225        | 450          | 675          | 900           | 1125           | 1350           | 1575           |
|                   | Throw (cfm) Side A | 3-3-6 (56) | 4-6-10 (113) | 6-8-15 (169) | 7-10-19 (225) | 9-12-24 (281)  | 10-15-28 (338) | 12-17-33 (394) |
|                   | Throw (cfm) Side B | 3-4-6 (84) | 5-6-12 (169) | 6-9-17 (253) | 8-12-22 (338) | 10-14-28 (422) | 12-17-33 (506) | 13-20-38 (591) |
|                   | NC                 | —          | —            | —            | 16            | 23             | 30             | 35             |

#### Core Style 2S • 2-way opposite blow pattern



| Nominal Neck Size | Neck Velocity, fpm | 100   | 200    | 300     | 400     | 500      | 600      | 700      |
|-------------------|--------------------|-------|--------|---------|---------|----------|----------|----------|
|                   | Velocity Pressure  | 0.001 | 0.002  | 0.006   | 0.010   | 0.016    | 0.022    | 0.031    |
|                   | Total Pressure     | 0.003 | 0.014  | 0.031   | 0.056   | 0.087    | 0.126    | 0.171    |
| 6 x 6             | Airflow, cfm       | 25    | 50     | 75      | 100     | 125      | 150      | 175      |
|                   | Throw              | 2-2-3 | 2-3-5  | 3-4-7   | 4-5-10  | 5-6-12   | 5-7-14   | 6-9-16   |
|                   | NC                 | —     | —      | —       | —       | 17       | 23       | 28       |
| 9 x 9             | Airflow, cfm       | 56    | 113    | 169     | 225     | 281      | 338      | 394      |
|                   | Throw              | 2-3-4 | 3-4-7  | 4-6-11  | 5-7-14  | 6-9-17   | 7-11-20  | 8-12-23  |
|                   | NC                 | —     | —      | —       | 13      | 20       | 27       | 32       |
| 12 x 12           | Airflow, cfm       | 100   | 200    | 300     | 400     | 500      | 600      | 700      |
|                   | Throw              | 2-3-5 | 4-5-9  | 5-7-13  | 6-9-16  | 7-11-20  | 9-13-24  | 10-14-28 |
|                   | NC                 | —     | —      | —       | 15      | 22       | 29       | 34       |
| 15 x 15           | Airflow, cfm       | 156   | 313    | 469     | 625     | 781      | 938      | 1094     |
|                   | Throw              | 3-3-6 | 4-6-10 | 6-8-15  | 7-10-20 | 9-13-24  | 10-15-29 | 12-17-33 |
|                   | NC                 | —     | —      | —       | 17      | 24       | 31       | 36       |
| 18 x 18           | Airflow, cfm       | 225   | 450    | 675     | 900     | 1125     | 1350     | 1575     |
|                   | Throw              | 3-4-6 | 4-6-11 | 6-9-17  | 8-11-22 | 10-14-27 | 11-17-32 | 13-19-37 |
|                   | NC                 | —     | —      | —       | 18      | 25       | 32       | 37       |
| 21 x 21           | Airflow, cfm       | 306   | 613    | 919     | 1225    | 1531     | 1838     | 2144     |
|                   | Throw              | 3-4-7 | 5-7-13 | 7-10-18 | 9-13-24 | 11-15-30 | 13-18-36 | 15-21-42 |
|                   | NC                 | —     | —      | 13      | 20      | 27       | 33       | 38       |
| 24 x 24           | Airflow, cfm       | 400   | 800    | 1200    | 1600    | 2000     | 2400     | 2800     |
|                   | Throw              | 3-4-7 | 5-7-13 | 7-10-20 | 9-13-26 | 11-16-32 | 13-20-38 | 15-23-44 |
|                   | NC                 | —     | —      | 14      | 21      | 28       | 34       | 39       |

For performance notes, see page D77.

## Performance Data

### Model 6400IV • Square Neck

#### Core Style 2G • 2-way corner blow pattern



| Nominal Neck Size | Neck Velocity, fpm | 100   | 200    | 300    | 400     | 500      | 600      | 700      |
|-------------------|--------------------|-------|--------|--------|---------|----------|----------|----------|
|                   | Velocity Pressure  | 0.001 | 0.002  | 0.006  | 0.010   | 0.016    | 0.022    | 0.031    |
|                   | Total Pressure     | 0.003 | 0.014  | 0.031  | 0.056   | 0.087    | 0.126    | 0.171    |
| 6 x 6             | Total Airflow, cfm | 25    | 50     | 75     | 100     | 125      | 150      | 175      |
|                   | Throw              | 2-2-3 | 2-3-5  | 3-5-7  | 4-5-10  | 5-6-12   | 5-7-14   | 4-9-16   |
|                   | NC                 | —     | —      | —      | —       | 17       | 23       | 28       |
| 9 x 9             | Total Airflow, cfm | 56    | 113    | 169    | 225     | 281      | 338      | 394      |
|                   | Throw              | 2-3-4 | 3-4-7  | 4-6-11 | 5-7-14  | 6-9-17   | 7-11-20  | 8-12-23  |
|                   | NC                 | —     | —      | —      | 13      | 20       | 27       | 32       |
| 12 x 12           | Total Airflow, cfm | 100   | 200    | 300    | 400     | 500      | 600      | 700      |
|                   | Throw              | 2-3-5 | 4-5-9  | 5-7-13 | 6-9-16  | 7-11-20  | 9-13-24  | 10-14-28 |
|                   | NC                 | —     | —      | —      | 15      | 22       | 29       | 34       |
| 15 x 15           | Total Airflow, cfm | 156   | 313    | 469    | 625     | 781      | 938      | 1094     |
|                   | Throw              | 3-3-6 | 4-6-10 | 6-8-15 | 7-10-20 | 9-13-24  | 10-15-29 | 12-17-33 |
|                   | NC                 | —     | —      | —      | 17      | 24       | 31       | 36       |
| 18 x 18           | Total Airflow, cfm | 225   | 450    | 675    | 900     | 1125     | 1350     | 1575     |
|                   | Throw              | 3-4-6 | 4-6-11 | 6-9-17 | 8-11-22 | 10-14-27 | 11-17-32 | 13-19-37 |
|                   | NC                 | —     | —      | —      | 18      | 25       | 32       | 37       |

#### Core Style 1S • 1-way blow pattern



| Nominal Neck Size | Neck Velocity, fpm | 100   | 200    | 300     | 400      | 500      | 600      | 700      |
|-------------------|--------------------|-------|--------|---------|----------|----------|----------|----------|
|                   | Velocity Pressure  | 0.001 | 0.002  | 0.006   | 0.010    | 0.016    | 0.022    | 0.031    |
|                   | Total Pressure     | 0.003 | 0.014  | 0.031   | 0.056    | 0.087    | 0.126    | 0.171    |
| 6 x 6             | Airflow, cfm       | 25    | 50     | 75      | 100      | 125      | 150      | 175      |
|                   | Throw              | 2-3-4 | 3-4-7  | 4-6-10  | 5-7-13   | 6-9-18   | 7-10-20  | 5-12-23  |
|                   | NC                 | —     | —      | —       | —        | 17       | 23       | 28       |
| 9 x 9             | Airflow, cfm       | 56    | 113    | 169     | 225      | 281      | 338      | 394      |
|                   | Throw              | 2-3-5 | 4-5-9  | 5-7-13  | 6-9-17   | 8-11-21  | 9-13-25  | 10-15-29 |
|                   | NC                 | —     | —      | —       | 13       | 20       | 27       | 32       |
| 12 x 12           | Airflow, cfm       | 100   | 200    | 300     | 400      | 500      | 600      | 700      |
|                   | Throw              | 2-3-5 | 4-5-10 | 5-8-13  | 7-10-19  | 8-12-23  | 10-14-28 | 11-17-32 |
|                   | NC                 | —     | —      | —       | 15       | 22       | 29       | 34       |
| 15 x 15           | Airflow, cfm       | 156   | 313    | 469     | 625      | 781      | 938      | 1094     |
|                   | Throw              | 3-3-6 | 4-6-11 | 6-8-16  | 8-11-21  | 9-13-26  | 11-16-31 | 13-18-36 |
|                   | NC                 | —     | —      | —       | 17       | 24       | 31       | 36       |
| 18 x 18           | Airflow, cfm       | 225   | 450    | 675     | 900      | 1125     | 1350     | 1575     |
|                   | Throw              | 3-4-6 | 5-6-12 | 6-9-17  | 8-12-23  | 10-15-28 | 12-17-33 | 14-20-39 |
|                   | NC                 | —     | —      | —       | 18       | 25       | 32       | 37       |
| 21 x 21           | Airflow, cfm       | 306   | 613    | 919     | 1225     | 1531     | 1838     | 2144     |
|                   | Throw              | 3-4-7 | 5-7-13 | 7-10-19 | 9-13-25  | 11-16-31 | 13-19-38 | 15-22-44 |
|                   | NC                 | —     | —      | 13      | 20       | 27       | 33       | 38       |
| 24 x 24           | Airflow, cfm       | 400   | 800    | 1200    | 1600     | 2000     | 2400     | 2800     |
|                   | Throw              | 3-4-7 | 5-7-14 | 7-11-20 | 10-14-27 | 12-17-33 | 14-20-40 | 16-24-46 |
|                   | NC                 | —     | —      | 14      | 21       | 28       | 34       | 39       |

For performance notes, see page D77.

## Performance Data

Model 6400IV • Rectangular Neck

Core Style 4B • 4-way blow pattern



| Nominal Neck Size | Neck Velocity, fpm                  | 100            | 200            | 300            | 400            | 500            | 600            | 700            |
|-------------------|-------------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
|                   | Velocity Pressure<br>Total Pressure | 0.001<br>0.003 | 0.002<br>0.012 | 0.006<br>0.026 | 0.010<br>0.046 | 0.016<br>0.072 | 0.022<br>0.103 | 0.031<br>0.140 |
| 9 x 6             | Total Airflow, cfm                  | 38             | 75             | 113            | 150            | 188            | 225            | 263            |
|                   | Throw (cfm) Side A                  | 2-2-3 (13)     | 2-3-5 (25)     | 3-4-7 (38)     | 4-5-10 (50)    | 5-6-12 (63)    | 5-7-14 (75)    | 6-9-16 (88)    |
|                   | Throw (cfm) Side B                  | 1-2-2 (6)      | 2-2-4 (12)     | 2-3-5 (18)     | 3-4-7 (25)     | 3-5-8 (31)     | 4-8-10 (37)    | 4-6-11 (43)    |
|                   | NC                                  | —              | —              | —              | 11             | 22             | 26             | 29             |
| 12 x 6            | Total Airflow, cfm                  | 50             | 100            | 150            | 200            | 250            | 300            | 350            |
|                   | Throw (cfm) Side A                  | 2-3-4 (19)     | 2-4-7 (37)     | 4-5-10 (56)    | 5-7-12 (75)    | 6-8-15 (94)    | 7-10-18 (113)  | 8-12-23 (131)  |
|                   | Throw (cfm) Side B                  | 1-2-2 (6)      | 2-2-4 (13)     | 2-3-5 (18)     | 3-4-7 (25)     | 3-5-8 (31)     | 4-5-10 (37)    | 4-6-11 (44)    |
|                   | NC                                  | —              | —              | —              | 12             | 19             | 26             | 30             |
| 12 x 9            | Total Airflow, cfm                  | 75             | 150            | 225            | 300            | 375            | 450            | 525            |
|                   | Throw (cfm) Side A                  | 2-3-4 (24)     | 3-4-7 (47)     | 4-6-11 (70)    | 5-7-14 (94)    | 6-9-17 (117)   | 7-11-20 (141)  | 8-12-23 (164)  |
|                   | Throw (cfm) Side B                  | 2-2-3 (14)     | 2-3-5 (28)     | 3-4-7 (42)     | 4-5-9 (56)     | 4-6-11 (70)    | 5-7-13 (84)    | 6-8-15 (98)    |
|                   | NC                                  | —              | —              | —              | 13             | 20             | 27             | 32             |
| 15 x 9            | Total Airflow, cfm                  | 94             | 188            | 281            | 375            | 469            | 563            | 656            |
|                   | Throw (cfm) Side A                  | 2-3-4 (33)     | 3-4-8 (65)     | 4-6-11 (98)    | 6-8-15 (131)   | 7-10-18 (165)  | 8-11-20 (198)  | 9-13-25 (230)  |
|                   | Throw (cfm) Side B                  | 2-2-3 (14)     | 2-3-5 (28)     | 3-4-7 (48)     | 4-5-9 (56)     | 4-6-11 (70)    | 5-7-13 (84)    | 6-8-15 (98)    |
|                   | NC                                  | —              | —              | —              | 14             | 21             | 28             | 32             |
| 18 x 9            | Total Airflow, cfm                  | 113            | 225            | 338            | 450            | 563            | 675            | 788            |
|                   | Throw (cfm) Side A                  | 2-3-5 (42)     | 3-5-8 (85)     | 5-7-12 (126)   | 6-8-16 (169)   | 7-10-19 (211)  | 8-12-23 (254)  | 10-14-27 (296) |
|                   | Throw (cfm) Side B                  | 2-2-3 (14)     | 2-3-5 (28)     | 3-4-7 (42)     | 4-5-9 (56)     | 4-6-11 (70)    | 5-7-13 (84)    | 6-8-15 (98)    |
|                   | NC                                  | —              | —              | —              | 15             | 22             | 29             | 33             |
| 21 x 9            | Total Airflow, cfm                  | 131            | 263            | 394            | 525            | 656            | 788            | 919            |
|                   | Throw (cfm) Side A                  | 2-3-4 (51)     | 4-5-9 (103)    | 5-7-13 (154)   | 6-9-17 (206)   | 8-11-21 (258)  | 9-13-25 (309)  | 10-15-29 (360) |
|                   | Throw (cfm) Side B                  | 2-2-3 (14)     | 2-3-5 (28)     | 3-4-7 (42)     | 4-5-9 (56)     | 4-6-11 (70)    | 5-7-13 (84)    | 6-8-15 (98)    |
|                   | NC                                  | —              | —              | —              | 16             | 23             | 30             | 34             |
| 15 x 12           | Total Airflow, cfm                  | 125            | 250            | 375            | 500            | 625            | 750            | 875            |
|                   | Throw (cfm) Side A                  | 2-3-5 (38)     | 4-5-9 (75)     | 5-7-12 (112)   | 6-9-16 (150)   | 7-11-20 (187)  | 9-12-24 (225)  | 10-14-28 (262) |
|                   | Throw (cfm) Side B                  | 2-2-4 (25)     | 3-4-7 (50)     | 4-5-10 (75)    | 5-7-13 (100)   | 6-8-16 (125)   | 7-10-19 (150)  | 8-11-22 (175)  |
|                   | NC                                  | —              | —              | —              | 15             | 22             | 29             | 34             |
| 18 x 12           | Total Airflow, cfm                  | 150            | 300            | 450            | 600            | 750            | 900            | 1050           |
|                   | Throw (cfm) Side A                  | 2-3-5 (50)     | 4-5-9 (100)    | 5-7-13 (150)   | 6-9-17 (200)   | 8-11-21 (250)  | 9-13-25 (300)  | 10-15-28 (351) |
|                   | Throw (cfm) Side B                  | 2-2-4 (25)     | 3-4-7 (50)     | 3-5-10 (74)    | 5-7-13 (99)    | 6-8-16 (124)   | 7-10-19 (149)  | 8-11-22 (173)  |
|                   | NC                                  | —              | —              | —              | 16             | 23             | 30             | 35             |
| 21 x 12           | Total Airflow, cfm                  | 175            | 350            | 525            | 700            | 875            | 1050           | 1225           |
|                   | Throw (cfm) Side A                  | 2-3-5 (53)     | 4-5-9 (125)    | 5-7-13 (187)   | 7-9-18 (250)   | 8-11-22 (312)  | 9-13-26 (375)  | 11-15-30 (437) |
|                   | Throw (cfm) Side B                  | 2-2-4 (35)     | 3-4-7 (50)     | 4-5-10 (75)    | 5-7-13 (100)   | 6-8-16 (125)   | 7-10-19 (150)  | 8-11-22 (175)  |
|                   | NC                                  | —              | 16             | —              | 16             | 23             | 31             | 36             |
| 24 x 12           | Total Airflow, cfm                  | 200            | 400            | 600            | 800            | 1000           | 1200           | 1400           |
|                   | Throw (cfm) Side A                  | 3-3-6 (75)     | 4-6-10 (150)   | 6-8-15 (225)   | 7-10-19 (300)  | 9-12-24 (375)  | 10-15-28 (450) | 12-17-33 (525) |
|                   | Throw (cfm) Side B                  | 2-2-4 (25)     | 3-4-7 (50)     | 4-5-10 (75)    | 5-7-13 (100)   | 6-8-16 (125)   | 7-10-19 (150)  | 8-11-22 (175)  |
|                   | NC                                  | —              | 17             | —              | 17             | 24             | 31             | 36             |
| 18 x 15           | Total Airflow, cfm                  | 186            | 375            | 563            | 750            | 938            | 1125           | 1313           |
|                   | Throw (cfm) Side A                  | 2-3-5 (54)     | 4-5-9 (110)    | 5-7-12 (164)   | 6-9-16 (219)   | 7-10-19 (273)  | 9-12-24 (328)  | 10-14-28 (383) |
|                   | Throw (cfm) Side B                  | 2-3-5 (39)     | 3-5-8 (78)     | 5-6-12 (117)   | 6-8-15 (156)   | 7-11-20 (195)  | 8-12-22 (234)  | 9-14-26 (273)  |
|                   | NC                                  | —              | 16             | —              | 17             | 24             | 31             | 37             |
| 21 x 18           | Total Airflow, cfm                  | 263            | 525            | 785            | 1050           | 1310           | 1575           | 1840           |
|                   | Throw (cfm) Side A                  | 3-3-6 (76)     | 4-6-10 (200)   | 6-8-15 (225)   | 7-10-19 (300)  | 9-12-24 (375)  | 10-15-28 (450) | 12-17-33 (526) |
|                   | Throw (cfm) Side B                  | 3-3-6 (56)     | 4-6-10 (112)   | 6-8-15 (169)   | 7-10-19 (225)  | 9-12-24 (280)  | 10-15-28 (337) | 12-17-33 (394) |
|                   | NC                                  | —              | 18             | 13             | 19             | 26             | 33             | 38             |
| 24 x 18           | Total Airflow, cfm                  | 300            | 600            | 900            | 1200           | 1500           | 1800           | 2100           |
|                   | Throw (cfm) Side A                  | 3-4-6 (94)     | 4-6-11 (187)   | 6-9-16 (281)   | 8-11-21 (375)  | 9-14-26 (469)  | 11-16-32 (563) | 13-19-37 (656) |
|                   | Throw (cfm) Side B                  | 3-3-6 (56)     | 4-6-10 (112)   | 6-8-15 (169)   | 7-10-19 (225)  | 9-10-24 (280)  | 10-15-28 (337) | 12-17-33 (394) |
|                   | NC                                  | —              | —              | 14             | 20             | 27             | 34             | 39             |

For performance notes, see page D77.

## Performance Data

### Model 6400IV • Rectangular Neck

#### Core Style 3B • 3-way blow pattern



| Nominal Neck Size | Neck Velocity, fpm                  | 100            | 200            | 300            | 400            | 500            | 600            | 700            |
|-------------------|-------------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
|                   | Velocity Pressure<br>Total Pressure | 0.001<br>0.003 | 0.002<br>0.012 | 0.006<br>0.026 | 0.010<br>0.046 | 0.016<br>0.072 | 0.022<br>0.103 | 0.031<br>0.140 |
| 12 x 6            | Total Airflow, cfm                  | 50             | 100            | 150            | 200            | 250            | 300            | 350            |
|                   | Throw (cfm) Side A                  | 2-2-4 (25)     | 3-4-7 (50)     | 4-5-10 (75)    | 5-7-13 (100)   | 6-8-16 (125)   | 7-10-19 (150)  | 8-12-22 (175)  |
|                   | Throw (cfm) Side B                  | 2-2-3 (13)     | 2-3-5 (25)     | 3-4-7 (38)     | 4-5-10 (50)    | 5-6-12 (63)    | 5-7-14 (75)    | 6-8-15 (88)    |
|                   | NC                                  | —              | —              | —              | 12             | 19             | 27             | 30             |
| 18 x 9            | Total Airflow, cfm                  | 113            | 225            | 338            | 450            | 563            | 675            | 788            |
|                   | Throw (cfm) Side A                  | 3-3-6 (57)     | 3-6-10 (113)   | 6-8-15 (169)   | 7-10-19 (225)  | 9-12-24 (282)  | 10-15-28 (338) | 12-17-33 (394) |
|                   | Throw (cfm) Side B                  | 2-3-4 (28)     | 3-4-7 (56)     | 4-6-11 (84)    | 5-7-14 (113)   | 6-9-17 (141)   | 7-11-20 (169)  | 8-12-23 (199)  |
|                   | NC                                  | —              | —              | —              | 15             | 22             | 29             | 33             |
| 24 x 12           | Total Airflow, cfm                  | 200            | 400            | 600            | 800            | 1000           | 1200           | 1400           |
|                   | Throw (cfm) Side A                  | 3-4-6 (100)    | 4-6-11 (200)   | 6-9-17 (300)   | 8-11-22 (400)  | 10-14-27 (500) | 11-17-32 (600) | 13-19-37 (700) |
|                   | Throw (cfm) Side B                  | 2-3-5 (50)     | 4-5-9 (100)    | 5-7-13 (150)   | 6-9-16 (200)   | 7-11-20 (250)  | 9-13-24 (300)  | 10-14-28 (350) |
|                   | NC                                  | —              | —              | —              | 17             | 24             | 31             | 36             |

#### Core Style 3A2 • 3-way blow pattern



| Nominal Neck Size | Neck Velocity, fpm                  | 100            | 200            | 300            | 400            | 500            | 600            | 700            |
|-------------------|-------------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
|                   | Velocity Pressure<br>Total Pressure | 0.001<br>0.003 | 0.002<br>0.012 | 0.006<br>0.026 | 0.010<br>0.046 | 0.016<br>0.072 | 0.022<br>0.103 | 0.031<br>0.140 |
| 9 x 6             | Total Airflow, cfm                  | 38             | 75             | 113            | 150            | 188            | 225            | 263            |
|                   | Throw (cfm) Side A                  | 2-2-3 (15)     | 2-3-5 (28)     | 3-4-7 (42)     | 4-5-10 (56)    | 5-6-12 (70)    | 5-7-14 (84)    | 6-9-16 (98)    |
|                   | Throw (cfm) Side B                  | 2-2-3 (12)     | 2-3-5 (23)     | 3-4-7 (35)     | 4-5-9 (47)     | 4-6-11 (58)    | 5-7-13 (70)    | 6-8-15 (82)    |
|                   | NC                                  | —              | —              | —              | 11             | 22             | 26             | 29             |
| 12 x 9            | Total Airflow, cfm                  | 75             | 150            | 225            | 300            | 375            | 450            | 525            |
|                   | Throw (cfm) Side A                  | 2-3-4 (25)     | 3-4-6 (50)     | 4-5-10 (75)    | 5-7-13 (100)   | 6-9-16 (125)   | 7-10-19 (150)  | 8-12-23 (175)  |
|                   | Throw (cfm) Side B                  | 2-2-4 (25)     | 3-4-7 (50)     | 4-6-10 (75)    | 5-7-13 (100)   | 6-8-16 (125)   | 7-10-20 (150)  | 8-11-22 (175)  |
|                   | NC                                  | —              | —              | —              | 13             | 20             | 27             | 32             |
| 15 x 9            | Total Airflow, cfm                  | 94             | 188            | 281            | 375            | 469            | 563            | 656            |
|                   | Throw (cfm) Side A                  | 2-3-5 (39)     | 3-5-8 (78)     | 5-6-12 (117)   | 6-8-15 (156)   | 7-10-19 (196)  | 8-12-22 (235)  | 9-14-26 (274)  |
|                   | Throw (cfm) Side B                  | 2-3-4 (27)     | 3-4-7 (55)     | 4-6-11 (82)    | 5-7-14 (109)   | 6-9-17 (137)   | 7-11-20 (164)  | 8-12-23 (191)  |
|                   | NC                                  | —              | —              | —              | 14             | 21             | 28             | 32             |
| 15 x 12           | Total Airflow, cfm                  | 125            | 250            | 375            | 500            | 625            | 750            | 875            |
|                   | Throw (cfm) Side A                  | 2-3-5 (39)     | 3-5-8 (78)     | 5-6-12 (117)   | 6-8-15 (156)   | 7-10-19 (195)  | 8-12-23 (234)  | 9-14-26 (273)  |
|                   | Throw (cfm) Side B                  | 2-3-5 (43)     | 3-5-8 (86)     | 5-6-12 (129)   | 6-8-15 (172)   | 7-10-19 (215)  | 8-12-23 (258)  | 9-14-26 (301)  |
|                   | NC                                  | —              | —              | —              | 15             | 22             | 29             | 34             |
| 18 x 15           | Total Airflow, cfm                  | 188            | 375            | 563            | 750            | 938            | 1125           | 1313           |
|                   | Throw (cfm) Side A                  | 3-3-6 (56)     | 4-6-10 (113)   | 6-8-15 (168)   | 7-10-19 (225)  | 9-12-24 (281)  | 10-15-28 (338) | 12-17-33 (394) |
|                   | Throw (cfm) Side B                  | 4-4-7 (66)     | 5-7-12 (131)   | 7-9-17 (197)   | 8-11-21 (262)  | 10-13-26 (328) | 11-16-30 (394) | 13-18-35 (459) |
|                   | NC                                  | —              | —              | —              | 17             | 24             | 31             | 37             |

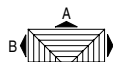
For performance notes, see page D77.



## Performance Data

### Model 6400IV • Rectangular Neck

#### Core Style 3E • 3-way blow pattern



| Nominal Neck Size | Neck Velocity, fpm | 100        | 200          | 300          | 400           | 500           | 600            | 700            |
|-------------------|--------------------|------------|--------------|--------------|---------------|---------------|----------------|----------------|
|                   | Velocity Pressure  | 0.001      | 0.002        | 0.006        | 0.010         | 0.016         | 0.022          | 0.031          |
|                   | Total Pressure     | 0.003      | 0.012        | 0.026        | 0.046         | 0.072         | 0.103          | 0.140          |
| 15 x 6            | Total Airflow, cfm | 63         | 125          | 188          | 250           | 313           | 375            | 438            |
|                   | Throw (cfm) Side A | 2-3-5 (38) | 4-5-9 (75)   | 5-7-12 (113) | 6-9-16 (150)  | 7-11-20 (188) | 9-12-24 (225)  | 10-14-28 (263) |
|                   | Throw (cfm) Side B | 2-2-3 (13) | 2-3-5 (25)   | 3-4-7 (38)   | 4-5-10 (50)   | 5-6-12 (63)   | 5-7-14 (75)    | 6-9-16 (88)    |
|                   | NC                 | —          | —            | —            | 12            | 19            | 26             | 31             |
| 21 x 9            | Total Airflow, cfm | 131        | 263          | 394          | 525           | 656           | 788            | 919            |
|                   | Throw (cfm) Side A | 2-3-5 (75) | 4-5-9 (150)  | 5-7-13 (225) | 6-9-17 (300)  | 8-11-21 (375) | 9-13-25 (450)  | 10-15-29 (525) |
|                   | Throw (cfm) Side B | 2-3-4 (28) | 3-4-7 (56)   | 4-6-11 (84)  | 5-7-14 (113)  | 6-9-17 (141)  | 7-11-20 (169)  | 8-12-23 (197)  |
|                   | NC                 | —          | —            | —            | 16            | 23            | 30             | 34             |
| 24 x 9            | Total Airflow, cfm | 150        | 300          | 450          | 600           | 750           | 900            | 1050           |
|                   | Throw (cfm) Side A | 2-3-5 (94) | 4-5-10 (188) | 5-8-14 (281) | 7-10-19 (375) | 8-12-23 (469) | 10-14-28 (563) | 11-17-32 (656) |
|                   | Throw (cfm) Side B | 2-3-4 (28) | 3-4-7 (56)   | 4-6-11 (84)  | 5-7-14 (113)  | 6-9-17 (141)  | 7-11-20 (169)  | 8-12-23 (197)  |
|                   | NC                 | —          | —            | —            | 17            | 24            | 31             | 36             |

#### Core Style 3A1 • 3-way blow pattern



| Nominal Neck Size | Neck Velocity, fpm | 100        | 200          | 300          | 400           | 500           | 600            | 700            |
|-------------------|--------------------|------------|--------------|--------------|---------------|---------------|----------------|----------------|
|                   | Velocity Pressure  | 0.001      | 0.002        | 0.006        | 0.010         | 0.016         | 0.022          | 0.031          |
|                   | Total Pressure     | 0.003      | 0.012        | 0.026        | 0.046         | 0.072         | 0.103          | 0.140          |
| 9 x 6             | Total Airflow, cfm | 38         | 75           | 113          | 150           | 188           | 225            | 263            |
|                   | Throw (cfm) Side A | 2-2-3 (16) | 3-3-6 (31)   | 3-5-8 (47)   | 4-6-10 (62)   | 5-7-13 (78)   | 6-8-15 (93)    | 7-9-18 (109)   |
|                   | Throw (cfm) Side B | 1-2-2 (6)  | 2-2-4 (12)   | 2-3-5 (19)   | 3-4-7 (25)    | 3-5-8 (31)    | 4-5-10 (37)    | 4-6-11 (44)    |
|                   | NC                 | —          | —            | —            | 11            | 22            | 26             | 29             |
| 12 x 6            | Total Airflow, cfm | 50         | 100          | 150          | 200           | 250           | 300            | 350            |
|                   | Throw (cfm) Side A | 2-2-4 (22) | 3-4-6 (44)   | 4-5-9 (66)   | 5-6-12 (88)   | 6-8-15 (109)  | 6-9-17 (131)   | 7-11-20 (153)  |
|                   | Throw (cfm) Side B | 1-2-2 (6)  | 2-2-4 (13)   | 2-3-5 (19)   | 3-4-7 (25)    | 3-5-8 (32)    | 4-5-10 (38)    | 4-6-11 (44)    |
|                   | NC                 | —          | —            | —            | 12            | 19            | 26             | 30             |
| 12 x 9            | Total Airflow, cfm | 75         | 150          | 225          | 300           | 375           | 450            | 525            |
|                   | Throw (cfm) Side A | 2-3-4 (30) | 3-4-7 (61)   | 4-6-11 (91)  | 5-7-14 (122)  | 6-9-17 (152)  | 7-11-20 (183)  | 8-12-23 (213)  |
|                   | Throw (cfm) Side B | 2-2-3 (14) | 2-3-5 (28)   | 3-4-7 (42)   | 4-5-9 (56)    | 4-6-11 (70)   | 5-7-13 (84)    | 6-8-15 (98)    |
|                   | NC                 | —          | —            | —            | 13            | 20            | 27             | 32             |
| 15 x 9            | Total Airflow, cfm | 94         | 188          | 281          | 375           | 469           | 563            | 656            |
|                   | Throw (cfm) Side A | 2-3-5 (40) | 3-5-8 (80)   | 5-7-12 (119) | 6-8-16 (159)  | 7-10-19 (199) | 8-12-23 (239)  | 10-14-27 (279) |
|                   | Throw (cfm) Side B | 2-2-3 (14) | 2-3-5 (28)   | 3-4-7 (42)   | 4-5-9 (56)    | 4-6-11 (70)   | 5-7-13 (84)    | 6-8-15 (98)    |
|                   | NC                 | —          | —            | —            | 14            | 21            | 28             | 32             |
| 15 x 12           | Total Airflow, cfm | 125        | 250          | 375          | 500           | 625           | 750            | 875            |
|                   | Throw (cfm) Side A | 2-3-5 (50) | 4-5-9 (100)  | 5-7-13 (150) | 6-9-17 (200)  | 8-11-21 (250) | 9-13-25 (300)  | 10-15-29 (350) |
|                   | Throw (cfm) Side B | 2-2-4 (25) | 3-4-7 (50)   | 4-5-10 (75)  | 5-7-12 (100)  | 6-8-15 (125)  | 7-10-18 (150)  | 8-11-21 (175)  |
|                   | NC                 | —          | —            | —            | 15            | 22            | 29             | 34             |
| 18 x 12           | Total Airflow, cfm | 150        | 300          | 450          | 600           | 750           | 900            | 1050           |
|                   | Throw (cfm) Side A | 2-3-5 (63) | 4-5-9 (125)  | 5-7-13 (188) | 7-9-18 (250)  | 8-11-22 (313) | 9-13-26 (375)  | 11-15-30 (437) |
|                   | Throw (cfm) Side B | 2-2-4 (25) | 3-4-7 (50)   | 4-5-10 (75)  | 5-7-12 (100)  | 6-8-15 (125)  | 7-10-18 (150)  | 8-11-21 (175)  |
|                   | NC                 | —          | —            | —            | 16            | 23            | 30             | 35             |
| 18 x 15           | Total Airflow, cfm | 186        | 375          | 563          | 750           | 938           | 1125           | 1313           |
|                   | Throw (cfm) Side A | 3-3-6 (74) | 4-6-10 (149) | 6-8-15 (223) | 8-12-24 (297) | 9-12-24 (371) | 10-15-28 (445) | 12-17-33 (520) |
|                   | Throw (cfm) Side B | 2-3-5 (39) | 3-5-8 (78)   | 5-6-12 (117) | 6-8-15 (156)  | 7-10-19 (195) | 8-12-22 (234)  | 9-14-26 (273)  |
|                   | NC                 | —          | —            | —            | 17            | 24            | 31             | 37             |

For performance notes, see page D77.

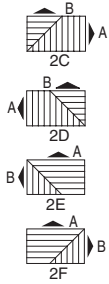
D

CEILING DIFFUSERS

## Performance Data

### Model 6400IV • Rectangular Neck

#### Core Styles 2C, 2D, 2E and 2F • 2-way corner blow pattern



| Nominal Neck Size | Neck Velocity, fpm                  | 100             | 200              | 300               | 400                | 500                 | 600                 | 700                  |
|-------------------|-------------------------------------|-----------------|------------------|-------------------|--------------------|---------------------|---------------------|----------------------|
|                   | Velocity Pressure<br>Total Pressure | 0.001<br>0.003  | 0.002<br>0.014   | 0.006<br>0.031    | 0.010<br>0.056     | 0.016<br>0.087      | 0.022<br>0.126      | 0.031<br>0.171       |
| 9 x 6             | Total Airflow, cfm                  | 38              | 75               | 113               | 150                | 188                 | 225                 | 263                  |
|                   | Throw (cfm) Side A                  | 2-3-4 (25)      | 3-4-7 (50)       | 4-6-10 (75)       | 5-7-14 (100)       | 6-9-17 (125)        | 7-10-20 (150)       | 8-12-23 (175)        |
|                   | Throw (cfm) Side B<br>NC            | 2-2-3 (13)<br>— | 2-3-5 (25)<br>—  | 3-4-7 (38)<br>—   | 4-5-10 (50)<br>11  | 5-6-12 (63)<br>18   | 5-7-14 (75)<br>25   | 6-9-16 (88)<br>29    |
| 12 x 6            | Total Airflow, cfm                  | 50              | 100              | 150               | 200                | 250                 | 300                 | 350                  |
|                   | Throw (cfm) Side A                  | 2-3-5 (38)      | 4-5-9 (75)       | 5-7-12 (113)      | 6-9-16 (150)       | 7-11-20 (188)       | 9-12-24 (225)       | 10-14-28 (263)       |
|                   | Throw (cfm) Side B<br>NC            | 2-2-3 (13)<br>— | 2-3-5 (25)<br>—  | 3-4-7 (38)<br>—   | 4-5-10 (50)<br>12  | 5-6-12 (63)<br>19   | 5-7-14 (75)<br>26   | 6-9-16 (88)<br>30    |
| 12 x 9            | Total Airflow, cfm                  | 75              | 150              | 225               | 300                | 375                 | 450                 | 525                  |
|                   | Throw (cfm) Side A                  | 2-3-5 (47)      | 4-5-9 (94)       | 5-7-13 (140)      | 6-9-17 (188)       | 8-11-21 (234)       | 9-13-25 (281)       | 10-15-29 (328)       |
|                   | Throw (cfm) Side B<br>NC            | 2-3-4 (28)<br>— | 3-4-7 (56)<br>—  | 4-6-11 (84)<br>—  | 5-7-14 (112)<br>13 | 6-9-17 (140)<br>20  | 7-11-20 (169)<br>27 | 8-12-23 (197)<br>32  |
| 15 x 9            | Total Airflow, cfm                  | 94              | 188              | 281               | 375                | 469                 | 563                 | 656                  |
|                   | Throw (cfm) Side A                  | 2-3-5 (66)      | 4-5-9 (132)      | 5-7-13 (197)      | 7-9-18 (262)       | 8-11-22 (328)       | 9-13-26 (394)       | 11-15-30 (459)       |
|                   | Throw (cfm) Side B<br>NC            | 2-3-4 (28)<br>— | 3-4-7 (56)<br>—  | 4-6-11 (84)<br>—  | 5-7-14 (113)<br>14 | 6-9-17 (141)<br>21  | 7-11-20 (169)<br>28 | 8-12-23 (197)<br>32  |
| 18 x 9            | Total Airflow, cfm                  | 113             | 225              | 338               | 450                | 563                 | 675                 | 788                  |
|                   | Throw (cfm) Side A                  | 2-3-5 (85)      | 4-5-10 (169)     | 5-8-14 (254)      | 7-10-19 (338)      | 8-12-23 (421)       | 10-14-27 (506)      | 11-16-32 (591)       |
|                   | Throw (cfm) Side B<br>NC            | 2-3-4 (28)<br>— | 3-4-7 (56)<br>—  | 4-6-11 (85)<br>—  | 5-7-14 (113)<br>15 | 6-9-17 (141)<br>22  | 7-11-20 (169)<br>29 | 8-12-23 (197)<br>33  |
| 15 x 12           | Total Airflow, cfm                  | 125             | 250              | 375               | 500                | 625                 | 750                 | 875                  |
|                   | Throw (cfm) Side A                  | 2-3-5 (75)      | 4-5-9 (150)      | 5-7-13 (225)      | 6-9-17 (300)       | 8-11-21 (375)       | 9-13-25 (450)       | 9-15-29 (525)        |
|                   | Throw (cfm) Side B<br>NC            | 2-3-5 (50)<br>— | 4-5-9 (100)<br>— | 5-7-13 (150)<br>— | 6-9-17 (200)<br>15 | 8-11-21 (250)<br>22 | 9-13-25 (300)<br>29 | 10-15-29 (350)<br>34 |
| 18 x 12           | Total Airflow, cfm                  | 150             | 300              | 450               | 600                | 750                 | 900                 | 1050                 |
|                   | Throw (cfm) Side A                  | 2-3-5 (100)     | 4-5-10 (200)     | 5-8-14 (300)      | 7-10-19 (400)      | 8-12-23 (500)       | 10-14-29 (600)      | 11-17-32 (700)       |
|                   | Throw (cfm) Side B<br>NC            | 2-3-5 (50)<br>— | 4-5-9 (100)<br>— | 5-9-13 (150)<br>— | 6-9-17 (200)<br>18 | 8-11-21 (250)<br>25 | 9-13-25 (300)<br>31 | 10-15-29 (350)<br>36 |

#### Core Style 2A • 2-way opposite blow pattern



| Nominal Neck Size | Neck Velocity, fpm                  | 100              | 200                | 300               | 400                 | 500                  | 600                  | 700                  |
|-------------------|-------------------------------------|------------------|--------------------|-------------------|---------------------|----------------------|----------------------|----------------------|
|                   | Velocity Pressure<br>Total Pressure | 0.001<br>0.003   | 0.002<br>0.014     | 0.006<br>0.031    | 0.010<br>0.056      | 0.016<br>0.087       | 0.022<br>0.126       | 0.031<br>0.171       |
| 15 x 9            | Airflow, cfm                        | 94               | 188                | 281               | 375                 | 469                  | 563                  | 656                  |
|                   | Throw (cfm / side)<br>NC            | 2-3-5 (47)<br>—  | 3-5-8 (94)<br>—    | 5-6-12 (141)<br>— | 6-8-15 (188)<br>14  | 7-10-19 (234)<br>21  | 8-12-23 (282)<br>28  | 9-14-26 (328)<br>32  |
| 18 x 9            | Airflow, cfm                        | 113              | 225                | 338               | 450                 | 563                  | 675                  | 788                  |
|                   | Throw (cfm / side)<br>NC            | 2-3-5 (57)<br>—  | 4-5-9 (113)<br>—   | 5-7-12 (169)<br>— | 6-9-16 (225)<br>15  | 7-11-20 (282)<br>22  | 9-12-24 (338)<br>29  | 10-14-28 (394)<br>33 |
| 21 x 9            | Airflow, cfm                        | 131              | 263                | 394               | 525                 | 656                  | 788                  | 919                  |
|                   | Throw (cfm / side)<br>NC            | 2-3-5 (66)<br>—  | 3-5-9 (132)<br>—   | 5-7-13 (197)<br>— | 6-9-17 (263)<br>15  | 8-11-21 (328)<br>23  | 9-13-26 (394)<br>30  | 11-15-30 (460)<br>34 |
| 15 x 12           | Airflow, cfm                        | 125              | 250                | 375               | 500                 | 625                  | 750                  | 875                  |
|                   | Throw (cfm / side)<br>NC            | 2-3-5 (63)<br>—  | 4-5-10 (125)<br>—  | 5-7-14 (188)<br>— | 7-10-18 (250)<br>15 | 8-12-23 (313)<br>22  | 10-14-27 (375)<br>29 | 11-16-31 (438)<br>34 |
| 18 x 12           | Airflow, cfm                        | 150              | 300                | 450               | 600                 | 750                  | 900                  | 1050                 |
|                   | Throw (cfm / side)<br>NC            | 3-3-6 (75)<br>—  | 4-6-10 (150)<br>—  | 6-8-15 (225)<br>— | 7-10-20 (300)<br>16 | 9-13-24 (375)<br>23  | 10-15-29 (450)<br>30 | 12-17-33 (525)<br>35 |
| 21 x 12           | Airflow, cfm                        | 175              | 350                | 525               | 700                 | 875                  | 1050                 | 1225                 |
|                   | Throw (cfm / side)<br>NC            | 3-3-6 (88)<br>—  | 4-6-11 (175)<br>16 | 6-8-16 (263)<br>— | 8-11-21 (350)<br>17 | 9-13-25 (438)<br>24  | 11-16-30 (525)<br>31 | 12-18-35 (613)<br>36 |
| 24 x 12           | Airflow, cfm                        | 200              | 400                | 600               | 800                 | 1000                 | 1200                 | 1400                 |
|                   | Throw (cfm / side)<br>NC            | 3-4-6 (100)<br>— | 4-6-11 (200)<br>—  | 6-9-17 (300)<br>— | 8-11-22 (400)<br>18 | 10-14-27 (500)<br>25 | 11-17-32 (600)<br>31 | 13-19-37 (700)<br>36 |

For performance notes, see page D77.

## Performance Data

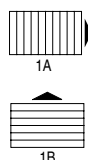
### Model 6400IV • Rectangular Neck

#### Core Style 2B • 2-way opposite blow pattern



| Nominal Neck Size | Neck Velocity, fpm | 100        | 200        | 300          | 400          | 500           | 600           | 700           |
|-------------------|--------------------|------------|------------|--------------|--------------|---------------|---------------|---------------|
|                   | Velocity Pressure  | 0.001      | 0.002      | 0.006        | 0.010        | 0.016         | 0.022         | 0.031         |
|                   | Total Pressure     | 0.003      | 0.014      | 0.031        | 0.056        | 0.087         | 0.126         | 0.171         |
| 9 x 6             | Airflow, cfm       | 38         | 75         | 113          | 150          | 188           | 225           | 263           |
|                   | Throw (cfm / side) | 2-2-4 (19) | 3-4-7 (38) | 4-5-10 (57)  | 5-7-12 (75)  | 6-8-15 (94)   | 7-10-18 (113) | 8-11-21 (132) |
|                   | NC                 | —          | —          | —            | 11           | 18            | 26            | 29            |
| 12 x 6            | Airflow, cfm       | 50         | 100        | 150          | 200          | 250           | 300           | 350           |
|                   | Throw (cfm / side) | 2-3-4 (25) | 3-4-7 (50) | 4-6-11 (75)  | 5-7-14 (100) | 6-9-17 (125)  | 7-11-20 (150) | 8-12-23 (175) |
|                   | NC                 | —          | —          | —            | 12           | 19            | 26            | 30            |
| 12 x 9            | Airflow, cfm       | 75         | 150        | 225          | 300          | 375           | 450           | 525           |
|                   | Throw (cfm / side) | 2-3-4 (38) | 3-4-8 (75) | 4-6-11 (113) | 6-8-15 (150) | 7-10-18 (188) | 8-11-21 (225) | 9-13-25 (263) |
|                   | NC                 | —          | —          | —            | 15           | 23            | 30            | 34            |

#### Core Styles 1A and 1B • 1-way blow pattern



| Nominal Neck Size | Neck Velocity, fpm | 100   | 200    | 300    | 400     | 500     | 600      | 700      |
|-------------------|--------------------|-------|--------|--------|---------|---------|----------|----------|
|                   | Velocity Pressure  | 0.001 | 0.002  | 0.006  | 0.010   | 0.016   | 0.022    | 0.031    |
|                   | Total Pressure     | 0.003 | 0.014  | 0.031  | 0.056   | 0.087   | 0.126    | 0.171    |
| 9 x 6             | Airflow, cfm       | 38    | 75     | 113    | 150     | 188     | 225      | 263      |
|                   | Throw              | 2-3-4 | 4-5-9  | 5-7-12 | 6-9-16  | 7-11-20 | 9-12-24  | 10-14-28 |
|                   | NC                 | —     | —      | —      | 11      | 18      | 26       | 29       |
| 12 x 6            | Airflow, cfm       | 50    | 100    | 150    | 200     | 250     | 300      | 350      |
|                   | Throw              | 2-3-5 | 4-5-9  | 5-7-13 | 6-9-17  | 8-11-21 | 9-13-25  | 10-15-29 |
|                   | NC                 | —     | —      | —      | 13      | 20      | 27       | 32       |
| 15 x 6            | Airflow, cfm       | 63    | 125    | 188    | 250     | 313     | 375      | 438      |
|                   | Throw              | 2-3-5 | 4-5-9  | 5-7-13 | 6-9-17  | 8-11-21 | 9-13-25  | 10-15-29 |
|                   | NC                 | —     | —      | —      | 12      | 19      | 26       | 31       |
| 18 x 6            | Airflow, cfm       | 75    | 150    | 225    | 300     | 375     | 450      | 525      |
|                   | Throw              | 2-3-5 | 4-5-9  | 5-7-13 | 6-9-17  | 8-11-21 | 9-13-26  | 11-15-30 |
|                   | NC                 | —     | —      | —      | 12      | 20      | 27       | 32       |
| 21 x 6            | Airflow, cfm       | 88    | 175    | 263    | 350     | 438     | 525      | 613      |
|                   | Throw              | 2-3-5 | 4-5-10 | 5-7-14 | 7-10-18 | 8-12-22 | 10-14-27 | 11-16-31 |
|                   | NC                 | —     | —      | —      | 13      | 21      | 28       | 33       |
| 24 x 6            | Airflow, cfm       | 100   | 200    | 300    | 400     | 500     | 600      | 700      |
|                   | Throw              | 2-3-5 | 4-5-10 | 5-8-14 | 7-10-19 | 8-12-23 | 10-14-28 | 11-20-32 |
|                   | NC                 | —     | —      | —      | 15      | 22      | 28       | 33       |
| 21 x 9            | Airflow, cfm       | 131   | 263    | 394    | 525     | 656     | 788      | 919      |
|                   | Throw              | 3-3-6 | 4-6-10 | 6-8-15 | 7-10-20 | 9-13-25 | 10-15-29 | 12-18-34 |
|                   | NC                 | —     | —      | —      | 16      | 23      | 30       | 35       |
| 24 x 9            | Airflow, cfm       | 150   | 300    | 450    | 600     | 750     | 900      | 1050     |
|                   | Throw              | 3-4-6 | 4-6-11 | 6-9-16 | 8-11-21 | 9-14-26 | 11-16-31 | 13-19-36 |
|                   | NC                 | —     | —      | —      | 17      | 24      | 31       | 36       |

#### Performance Notes:

- All pressure are in inches w.g..
- Throw values are given for terminal velocities of 150, 100 and 50 fpm under isothermal conditions. Data applies to ceiling mounted units when the maximum coanda effect applies. When no ceiling is present (exposed duct), throws are reduced by approximately 25%.
- NC (Noise Criteria) values are based on 10 dB room absorption, re 10<sup>-12</sup> watts.
- Tests conducted on diffuser only without damper using ideal straight rigid inlet condition. Other inlet conditions may affect performance.  
Correction factors for addition of a neck mounted opposed blade damper (fully open):  
Total Pressure: Multiply catalog value by x 1.20.  
NC: Add +4 to catalog value.
- Correction factor for round inlets, see next page.
- Data derived from tests conducted in accordance with ANSI/ASHRAE Standard 70-1991.

## Performance Data Corrections

### Model 6400IV

#### Correction Factors For Round Necks (Square to Round Inlet Adaptors).

- Add the NC correction factor from Table 1 and the NC value listed in the performance tables.
- Multiply the correction factor from Table 1 by the listed total pressure in the performance tables.
- Multiply the correction factor from Table 1 by the listed throws in the performance tables.

#### Example:

12" x 12" unit with a 4A core and a 10" round adaptor handling 500 cfm supply air. (Page D70).

- $NC = 20 + 7 = 27$
- Total Pressure =  $.072 \times 1.65 = 0.119$
- Throw =  $16 \times 1.15 = 18.40$  feet @ 50 fpm terminal velocity.

**TABLE 1** Correction Factors for SR Adaptors

| SQUARE<br>INLET | ROUND<br>INLET | NC<br>(add) | TP<br>(multiply) | THROW (multiply) |      |      |
|-----------------|----------------|-------------|------------------|------------------|------|------|
|                 |                |             |                  | 150              | 100  | 50   |
| 6 x 6           | 5              | 7           | 1.65             | 1.10             | 1.10 | 1.15 |
|                 | 6              | 17          | 3.50             | 1.15             | 1.15 | 1.20 |
| 9 x 9           | 8              | 4           | 1.40             | 1.10             | 1.10 | 1.10 |
|                 | 8              | 17          | 3.50             | 1.15             | 1.15 | 1.20 |
| 12 x 12         | 10             | 7           | 1.65             | 1.10             | 1.10 | 1.15 |
|                 | 10             | 17          | 3.50             | 1.15             | 1.15 | 1.20 |
| 15 x 15         | 12             | 9           | 1.90             | 1.10             | 1.10 | 1.15 |
|                 | 14             | 3           | 1.25             | 1.05             | 1.05 | 1.10 |
|                 | 12             | 17          | 3.50             | 1.15             | 1.15 | 1.20 |
| 18 x 18         | 14             | 10          | 2.00             | 1.10             | 1.10 | 1.15 |
|                 | 16             | 5           | 1.45             | 1.10             | 1.10 | 1.10 |
|                 | 14             | 17          | 3.70             | 1.15             | 1.15 | 1.20 |
| 21 x 21         | 16             | 11          | 2.25             | 1.10             | 1.10 | 1.15 |
|                 | 18             | 6           | 1.60             | 1.10             | 1.10 | 1.10 |
|                 | 20             | 3           | 1.20             | 1.05             | 1.05 | 1.10 |
|                 | 16             | 17          | 3.50             | 1.15             | 1.15 | 1.20 |
| 24 x 24         | 18             | 12          | 2.35             | 1.10             | 1.10 | 1.15 |
|                 | 20             | 7           | 1.65             | 1.10             | 1.10 | 1.15 |

#### Recommended Maximum Airflow

Diffuser mounting height and air temperature differential ( $\Delta T$ ) are both to be considered when selecting diffusers. As air travels from a diffuser, room air is entrained into the supply air stream and the delivery pattern thickens. If the volume or throw requirement is too great, the lower part of the supply air stream can intrude into the occupied zone causing objectionable drafts. Consult Table 2 to verify selection.

**TABLE 2** Maximum Recommended Airflow

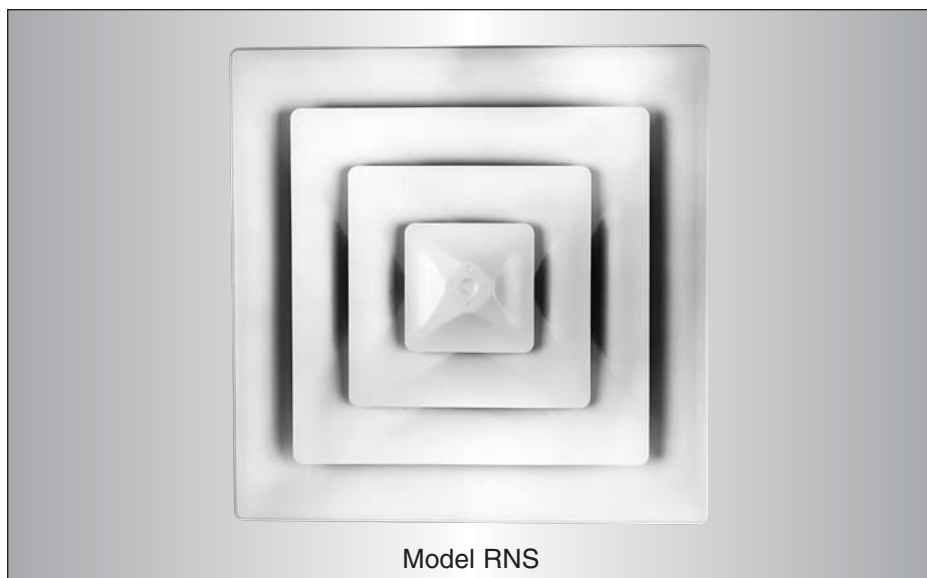
| CEILING<br>HEIGHT<br>(ft.) | MAXIMUM AIRFLOW PER DIFFUSER<br>(CFM) |       |                   |               | MAX. REC.<br>COOLING<br>TEMP.<br>DIFFERENTIAL<br>$\Delta T$ |
|----------------------------|---------------------------------------|-------|-------------------|---------------|-------------------------------------------------------------|
|                            | 4-way                                 | 3-way | 2-way<br>(2A, 2B) | 1-way<br>& 2S |                                                             |
| 7                          | 400                                   | 300   | 200               | 100           | 15°F                                                        |
| 8                          | 600                                   | 450   | 300               | 150           | 20°F                                                        |
| 9                          | 1200                                  | 900   | 600               | 300           | 25°F                                                        |
| 10                         | 1800                                  | 1350  | 900               | 450           | 25°F                                                        |
| 12                         | 3200                                  | 2400  | 1600              | 800           | 30°F                                                        |
| 14                         | 4800                                  | 3600  | 2400              | 1200          | 30°F                                                        |
| 16                         | 6000                                  | 4500  | 3000              | 1500          | 30°F                                                        |

## STAMPED SQUARE CEILING DIFFUSERS

- FIXED AIR PATTERN
- HIGH PERFORMANCE
- SQUARE FACE
- ROUND NECK

### Models:

**RNS**     **Steel**  
**ARNS**   **Aluminum**



The **Nailor RNS Series Square Ceiling Air Diffusers** have been specially designed to provide an extremely cost effective, value engineered product. They offer both the unobtrusive appearance required for architectural excellence and the 360° diffusion pattern at minimum NC levels required for high engineering performance. For these reasons the **RNS Series** diffuser is the most popular choice for general applications.

The stamped one-piece cones eliminate mitered corners and the die-formed curves provide consistent quality and performance. The stepped down core design increases capacity and minimizes streaking and smudging of the ceiling.

The diffusers provide stable diffusion and mixing patterns under constant and changing load conditions and are particularly suitable for variable air volume systems.

The diffusers are available with various frame/border designs to suit many ceiling systems including surface mount, T-Bar lay-in, and panel applications. Standard finish is a high quality baked enamel for long life and easy cleaning. A variety of neck sizes are available to suit your system design. The collar is a full 1 1/4" (32) in height for easy, secure connection. Steel models are available in all size and frame type combinations. Aluminum models are available in a 24" x 24" (610 x 610) and a 20" x 20" (508 x 508) full face Type L frame module and 12" x 12" (305 x 305) modules with a full face Type L or Type S frame.

### FEATURES:

- Spring loaded core is securely held in position and is removable without the use of tools.
- Engineered air diffusion pattern.
- Steel stamped shapes for uniformity.
- High neck collars for solid connection.
- All 12" x 12" (305 x 305) and 24" x 24"

(610 x 610) modules feature four cones in all neck sizes, providing a uniform and balanced appearance. The 20" x 20" (508 x 508) module has three cones.

- Screwdriver adjustment of the optional balancing damper is achieved through the inner cone assembly.

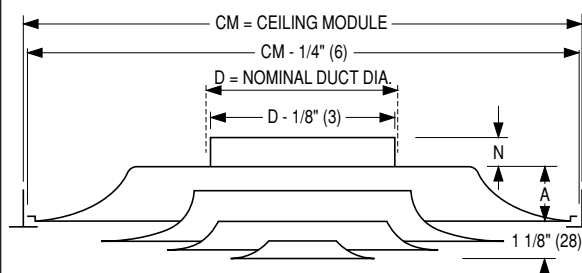
- Optional QB Quadrant Blanks for 1, 2 and 3-way blow.

**Material:** Heavy gauge, corrosion-resistant steel or aluminum with miscellaneous steel components.

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

### Type L Lay-in, T-Bar Frame

12 x 12 (300 x 300) and 24 x 24 (600 x 600) modules



### Dimensional Data

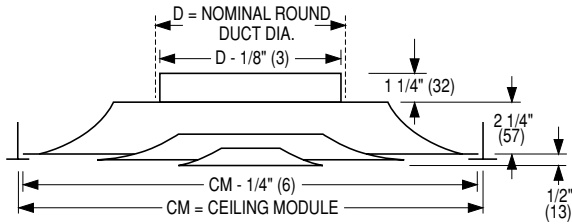
| Ceiling Module CM |                | Imperial Units (inches) |       |        |    |        | Metric Units (mm)            |    |    |     |     |
|-------------------|----------------|-------------------------|-------|--------|----|--------|------------------------------|----|----|-----|-----|
| Imperial Modules  | Metric Modules | Duct Size D             | N     | A      | B  | F      | Duct Size D                  | N  | A  | B   | F   |
| 12 x 12           | 300            | 4 ★                     | 3 1/4 | 1      | 11 | 13     | 102 ★                        | 83 | 25 | 279 | 330 |
|                   | x 300          | 5, 6, 7, 8              | 1 1/4 |        |    |        | 127, 152, 178, 203           | 32 |    |     |     |
| 24 x 24           | 600            | 6, 8, 10, 12, 14, 15    | 1 1/4 | 2 5/16 | 22 | 24 3/4 | 152, 203, 254, 305, 356, 381 | 32 | 59 | 559 | 629 |
|                   | x 600          |                         |       |        |    |        |                              |    |    |     |     |

\* Supplied with a reducer.

## Dimensional Data and Frame Types Models RNS and ARNS

### Type L Lay-in T-Bar

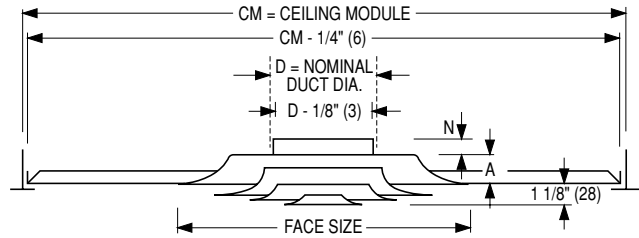
20" x 20" (500 x 500) module



| CM               |                | Imperial Units (inches) |        | Metric Units (mm) |     |
|------------------|----------------|-------------------------|--------|-------------------|-----|
| Imperial Modules | Metric Modules | Duct Size D             | B      | Duct Size D       | B   |
| 20 x 20          | 500 x 500      | 6, 8, 10                | 18 1/2 | 152, 203, 254     | 470 |

The 20 x 20 (500 x 500) module is only available in this frame style.

### Type PL Panel Mounted Lay-in T-Bar

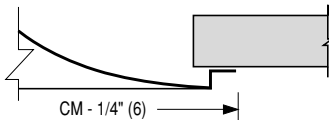


| CM               |                | Imperial Units (inches) |                      |       |        | Metric Units (mm) |                              |    |    |
|------------------|----------------|-------------------------|----------------------|-------|--------|-------------------|------------------------------|----|----|
| Imperial Modules | Metric Modules | Face Size               | Duct Size D          | N     | A      | Face Size         | Duct Size D                  | N  | A  |
| 24 x 24          | 600 x 600      | 12                      | 4 ★                  | 3 1/4 |        | 300               | 102                          | 83 |    |
| 24 x 12          | 600 x 300      | x                       | 5, 6, 7, 8           | 1 1/4 | 1      | x                 | 127, 152, 178, 203           | 32 | 25 |
| 20 x 20          | 500 x 500      | 12                      |                      |       |        | 300               |                              |    |    |
| 30 x 30          | 750 x 750      | 24                      | 6, 8, 10, 12, 14, 15 | 1 1/4 | 2 5/16 | 600 x 600         | 152, 203, 254, 305, 356, 381 | 32 | 59 |
| 48 x 24          | 1200 x 600     | 24                      | 6, 8, 10, 12, 14, 15 | 1 1/4 | 2 5/16 | 600 x 600         | 152, 203, 254, 305, 356, 381 | 32 | 59 |

★ Supplied with a reducer.

### Type L Surface Mount

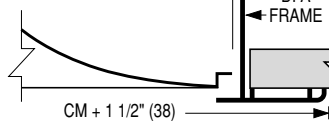
CM = CEILING MODULE  
CEILING OPENING = B



Hard duct connection recommended.

### Type L Surface Mount with DFA

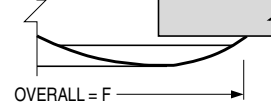
CEILING OPENING = CM + 1/4" (6)  
CM = CEILING MODULE  
CM - 1/4" (6)



Drywall/Plaster Frame. Recommended for flexible duct and ceiling access.

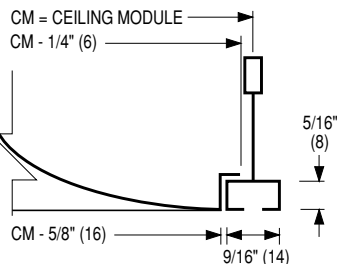
### Type S Surface Mount

CM = CEILING MODULE  
CEILING OPENING = CM - 1" (25)

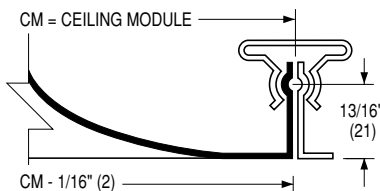


Hard duct connection recommended.

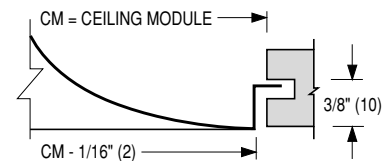
### Type F Fineline®



### Type M Metal Pan (Snap-in)



### Type SP Spline



For one directional exposed T-bar or fully concealed grid. One spline on two opposite sides, steel lift bracket on others.



## HOW TO SPECIFY OR TO ORDER

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

### Stamped Square Ceiling Diffusers – Models RNS and ARNS

**RNS - 08 - 24 x 24 - L - AW - -**

#### MODEL

- Steel, Fixed Pattern RNS
- Aluminum, Fixed Pattern ARNS

#### NECK SIZE (inches)

- 04, 05, 06, 07, 08
- 10, 12, 14, 15

#### CEILING MODULE SIZE

| Imperial (inches)   | Metric (mm)          |
|---------------------|----------------------|
| - 12 x 12           | 300 x 300            |
| - 20 x 20           | 500 x 500            |
| - 24 x 12 (PL only) | 600 x 300 (PL only)  |
| - 24 x 24           | 600 x 600            |
| - 30 x 30 (PL only) | 750 x 750 (PL only)  |
| - 48 x 24 (PL only) | 1200 x 600 (PL only) |

#### FRAME STYLE

- T-Bar Lay-in L
- Surface Mount S
- Panel T-Bar Lay-in PL
- Spline SP
- Metal Pan Snap-In M
- Fineline® F

#### ACCESSORIES

- None (default) —
- External Foil Back Insulation EX
- Earthquake Tabs EQT
- Quadrant Blanks
  - 3-Way Blow QB3
  - 2-Way Opposite Blow QB2
  - 2-Way Corner Blow QC2
  - 1-Way Blow QB1

#### AIR BALANCING DEVICES

- Radial Sliding Blade Damper 4250
- Radial Opposed Blade Damper 4275
- Butterfly Damper 4675
- Equalizing Grid EGR
- Damper/Equalizing Grid DEGR

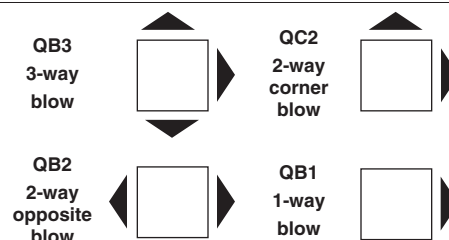
#### FINISH

- Appliance White (default) AW
- Aluminum AL
- Special Custom Color SP

#### Notes:

- Face sizes 12" x 12" (300 x 300) and 24" x 12" (600 x 300) are available in a 4" (102) through 8" (203) neck, 20" x 20" (500 x 500) face size is available in a 6", 8" or 10" (152, 203 or 254) neck and 24" x 24" (600 x 600) face size is available in a 6" (152) through 15" (381) neck.
- Face size 20" x 20" (500 x 500) is available only in frame style L.
- Consult text as to limitations of material, module size and frame style combinations.

#### BLOW PATTERNS WITH OPTIONAL FACTORY INSTALLED QUADRANT BLANKS.



#### SUGGESTED SPECIFICATION:

##### RNS – Steel Construction

Furnish and install **Nailor Model RNS Stamped Square Ceiling Diffusers** of the sizes and capacities as shown on the plans and air distribution schedules. The diffuser shall be manufactured from corrosion-resistant steel and have four die-formed concentric cones in all sizes, except the 20" x 20" (500 x 500) module size which will consist of three cones. The inner cone assembly is to be removable using a spring clip arrangement that permits quick, easy installation and removal. The diffuser shall have a removable plug for screwdriver adjustment of the optional damper without removing the inner core. The finish shall be AW Appliance White baked enamel (optional finishes are available).

The manufacturer shall provide published performance data for the diffuser, which shall be tested in accordance with ANSI/ASHRAE Standard 70 – 1991.

##### ARNS – Aluminum Construction

Furnish and install **Nailor Model ARNS Stamped Square Ceiling Diffusers** of the sizes and capacities as shown on the plans and air distribution schedules. The diffuser shall have four die-formed aluminum concentric cones in all sizes, except the 20" x 20" (500 x 500) module size which will consist of three cones. The inner cone assembly is to be removable using a spring clip arrangement that permits quick, easy installation and removal. The diffuser shall have a removable plug for screwdriver adjustment of the optional damper without removing the inner core. The finish shall be AW Appliance White baked enamel (optional finishes are available).

The manufacturer shall provide published performance data for the diffuser, which shall be tested in accordance with ANSI/ASHRAE Standard 70 – 1991.

## Performance Data

### Models RNS and ARNS • 12 x 12 (300 x 300) Face Size

| Nominal Neck Size | Neck Velocity, FPM | 400   | 500    | 600    | 700    | 800    | 900     | 1000    | 1200    | 1400     | 1600     |
|-------------------|--------------------|-------|--------|--------|--------|--------|---------|---------|---------|----------|----------|
|                   | VP                 | .010  | .016   | .023   | .031   | .040   | .051    | .063    | .090    | .122     | .160     |
| 4" Dia.           | TP                 | .014  | .022   | .032   | .043   | .056   | .071    | .088    | .126    | .172     | .224     |
|                   | Airflow, CFM       | 35    | 44     | 52     | 61     | 70     | 79      | 87      | 105     | 122      | 140      |
|                   | T                  | 1-2-4 | 2-2-5  | 2-3-5  | 2-3-6  | 2-4-7  | 3-4-7   | 3-5-7   | 4-5-8   | 4-6-9    | 5-7-9    |
|                   | NC                 | —     | —      | —      | —      | —      | 11      | 19      | 25      | 30       | 35       |
| 5" Dia.           | TP                 | .017  | .026   | .038   | .051   | .067   | .085    | .105    | .151    | .206     | .269     |
|                   | Airflow, CFM       | 55    | 68     | 82     | 95     | 109    | 123     | 136     | 164     | 191      | 218      |
|                   | T                  | 2-2-5 | 2-3-6  | 2-4-6  | 2-4-7  | 2-5-8  | 3-6-9   | 4-6-9   | 5-7-10  | 5-8-11   | 6-8-11   |
|                   | NC                 | —     | —      | —      | —      | —      | 14      | 22      | 28      | 33       | 38       |
| 6" Dia.           | TP                 | .018  | .029   | .043   | .060   | .079   | .100    | .128    | .175    | .250     | .325     |
|                   | Airflow, CFM       | 80    | 100    | 120    | 140    | 160    | 180     | 200     | 235     | 275      | 315      |
|                   | T                  | 1-2-4 | 1-2-5  | 1-3-6  | 2-3-6  | 2-4-8  | 3-4-8   | 3-4-10  | 4-5-10  | 4-6-14   | 5-8-14   |
|                   | NC                 | —     | —      | 11     | 16     | 20     | 22      | 24      | 31      | 38       | 41       |
| 7" Dia.           | TP                 | .022  | .035   | .050   | .068   | .089   | .112    | .138    | .199    | .271     | .354     |
|                   | Airflow, CFM       | 107   | 134    | 160    | 187    | 214    | 241     | 267     | 321     | 374      | 428      |
|                   | T                  | 2-4-8 | 3-5-9  | 4-6-10 | 4-7-11 | 5-8-12 | 5-9-13  | 6-10-14 | 7-10-14 | 9-11-15  | 10-12-16 |
|                   | NC                 | —     | —      | 12     | 17     | 20     | 24      | 27      | 33      | 39       | 42       |
| 8" Dia.           | TP                 | .031  | .047   | .065   | .087   | .110   | .140    | .168    | .235    | .310     | .395     |
|                   | Airflow, CFM       | 140   | 175    | 210    | 245    | 280    | 315     | 350     | 420     | 490      | 560      |
|                   | T                  | 3-5-9 | 4-5-11 | 5-7-13 | 5-8-14 | 6-9-14 | 6-10-15 | 7-11-16 | 8-12-17 | 10-13-18 | 11-14-18 |
|                   | NC                 | —     | —      | 13     | 18     | 22     | 26      | 29      | 35      | 40       | 44       |

### Models RNS and ARNS • 20 x 20 (500 x 500) Face Size

| Nominal Neck Size | Neck Velocity, FPM | 400   | 500   | 600   | 700   | 800   | 900    | 1000   | 1200   | 1400   | 1600   |
|-------------------|--------------------|-------|-------|-------|-------|-------|--------|--------|--------|--------|--------|
|                   | VP                 | .010  | .016  | .023  | .031  | .040  | .051   | .063   | .090   | .122   | .160   |
| 6" Dia.           | TP                 | .015  | .023  | .033  | .045  | .058  | .074   | .091   | .130   | .176   | .230   |
|                   | Airflow, CFM       | 80    | 100   | 120   | 140   | 160   | 180    | 200    | 235    | 275    | 315    |
|                   | T                  | 1-1-3 | 1-2-4 | 1-2-4 | 1-3-5 | 2-3-6 | 2-3-6  | 2-4-7  | 3-5-8  | 3-5-8  | 4-6-9  |
|                   | NC                 | —     | —     | 14    | 18    | 21    | 26     | 29     | 34     | 38     | 41     |
| 8" Dia.           | TP                 | .018  | .028  | .041  | .055  | .072  | .091   | .112   | .161   | .219   | .286   |
|                   | Airflow, CFM       | 140   | 175   | 210   | 245   | 280   | 315    | 350    | 420    | 490    | 560    |
|                   | T                  | 1-2-5 | 2-3-6 | 2-4-6 | 3-4-7 | 3-5-7 | 4-5-8  | 4-6-8  | 5-6-9  | 6-7-10 | 6-8-11 |
|                   | NC                 | —     | 11    | 16    | 20    | 23    | 28     | 31     | 36     | 40     | 43     |
| 10" Dia.          | TP                 | .023  | .036  | .052  | .071  | .092  | .117   | .144   | .207   | .281   | .367   |
|                   | Airflow, CFM       | 220   | 270   | 330   | 380   | 435   | 490    | 545    | 655    | 765    | 870    |
|                   | T                  | 2-4-6 | 3-4-7 | 4-5-8 | 4-6-9 | 5-6-9 | 5-7-10 | 6-7-10 | 6-8-11 | 7-9-12 | 8-9-13 |
|                   | NC                 | —     | 13    | 18    | 22    | 25    | 30     | 33     | 38     | 42     | 45     |

For performance notes, see next page.

## Performance Data

### Models RNS and ARNS • 24 x 24 (600 x 600) Face Size

| Nominal Neck Size | Neck Velocity, FPM | 400    | 500    | 600    | 700     | 800     | 900      | 1000     | 1200     | 1400     | 1600     |
|-------------------|--------------------|--------|--------|--------|---------|---------|----------|----------|----------|----------|----------|
|                   | VP                 | .010   | .016   | .023   | .031    | .040    | .051     | .063     | .090     | .122     | .160     |
| 6" Dia.           | TP                 | .015   | .023   | .035   | .045    | .060    | .076     | .095     | .135     | .186     | .240     |
|                   | Airflow, CFM       | 80     | 100    | 120    | 140     | 160     | 180      | 200      | 235      | 275      | 315      |
|                   | T                  | 1-1-4  | 1-2-5  | 1-2-6  | 1-3-7   | 2-4-9   | 2-5-9    | 3-6-11   | 3-6-12   | 4-7-14   | 6-8-15   |
|                   | NC                 | —      | —      | —      | 13      | 17      | 21       | 24       | 27       | 32       | 36       |
| 8" Dia.           | TP                 | .021   | .033   | .047   | .063    | .082    | .105     | .128     | .183     | .245     | .325     |
|                   | Airflow, CFM       | 140    | 175    | 210    | 245     | 280     | 315      | 350      | 420      | 490      | 560      |
|                   | T                  | 1-1-5  | 1-2-6  | 1-3-8  | 2-4-8   | 3-5-10  | 3-6-10   | 4-6-13   | 5-8-13   | 6-8-16   | 7-10-17  |
|                   | NC                 | —      | —      | 13     | 17      | 20      | 25       | 28       | 33       | 37       | 40       |
| 10" Dia.          | TP                 | .024   | .037   | .047   | .074    | .097    | .123     | .150     | .215     | .293     | .372     |
|                   | Airflow, CFM       | 220    | 270    | 330    | 380     | 435     | 490      | 545      | 655      | 765      | 870      |
|                   | T                  | 1-3-6  | 2-4-8  | 3-5-9  | 4-6-12  | 5-6-12  | 5-7-14   | 6-9-15   | 6-10-15  | 8-13-17  | 9-13-18  |
|                   | NC                 | —      | 11     | 16     | 20      | 23      | 28       | 31       | 36       | 40       | 43       |
| 12" Dia.          | TP                 | .026   | .039   | .057   | .075    | .097    | .127     | .150     | .245     | .310     | .410     |
|                   | Airflow, CFM       | 315    | 390    | 470    | 550     | 630     | 705      | 785      | 990      | 1100     | 1255     |
|                   | T                  | 2-3-7  | 3-4-9  | 3-5-10 | 4-6-13  | 5-7-13  | 5-8-15   | 5-8-16   | 7-9-18   | 9-11-18  | 10-12-19 |
|                   | NC                 | —      | 13     | 18     | 21      | 24      | 29       | 32       | 37       | 41       | 44       |
| 14" Dia.          | TP                 | .030   | .050   | .070   | .100    | .110    | .160     | .200     | .240     | .390     | .490     |
|                   | Airflow, CFM       | 425    | 530    | 635    | 745     | 850     | 955      | 1060     | 1270     | 1490     | 1695     |
|                   | T                  | 3-4-9  | 4-5-11 | 4-7-13 | 5-7-16  | 6-9-16  | 7-11-16  | 7-11-19  | 9-13-19  | 11-16-19 | 11-16-27 |
|                   | NC                 | —      | 14     | 19     | 22      | 25      | 29       | 32       | 37       | 42       | 45       |
| 15" Dia.          | TP                 | .033   | .054   | .072   | .100    | .127    | .163     | .204     | .280     | .395     | .500     |
|                   | Airflow, CFM       | 490    | 615    | 735    | 860     | 985     | 1110     | 1230     | 1470     | 1720     | 1970     |
|                   | T                  | 5-7-10 | 6-8-11 | 7-9-14 | 8-10-17 | 8-13-18 | 10-15-19 | 11-16-22 | 12-18-27 | 13-20-32 | 15-22-34 |
|                   | NC                 | —      | 15     | 20     | 23      | 26      | 30       | 33       | 38       | 43       | 46       |

**CFM** - cubic feet per minute

**FPM** - feet per minute velocity

**TP** - total pressure - inches w.g.

**VP** - velocity pressure - inches w.g.

**T** - throw in feet

**NC** - Noise Criteria (values) based on 10 dB room absorption, re 10<sup>-12</sup> watts.

#### Performance Notes:

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

2. Data derived from tests conducted in accordance with ANSI/ASHRAE Standard 70 – 1991.

3. The addition of quadrant blanks reduces the effective area and for a

given air volume, increases the discharge velocity. This will result in an increase in throw, pressure drop and sound level. To determine throw, select the diffuser as if it were supplying a larger volume of air. The table shows the percentage increase required to determine selection of diffuser size and throw. To correct pressure drop and NC, use correction factors as shown for 4-way blow values.

| Neck Size Diameter in Inches | Nominal Overall Face Size | Ak Factor |
|------------------------------|---------------------------|-----------|
| 6                            | 12 x 12                   | 0.131     |
| 8                            | 12 x 12                   | 0.202     |
| 6                            | 24 x 24                   | 0.180     |
| 8                            | 24 x 24                   | 0.227     |
| 10                           | 24 x 24                   | 0.331     |
| 12                           | 24 x 24                   | 0.450     |
| 14                           | 24 x 24                   | 0.511     |
| 15                           | 24 x 24                   | 0.625     |

| Quadrant Blanks (Blow) | % Increase in Air Volume for Throw Determination | % Increase in Static Pressure Drop | NC Sound Level Increase |
|------------------------|--------------------------------------------------|------------------------------------|-------------------------|
| 1 (3-way)              | 35                                               | 125                                | 8                       |
| 2 (2-way)              | 100                                              | 450                                | 19                      |

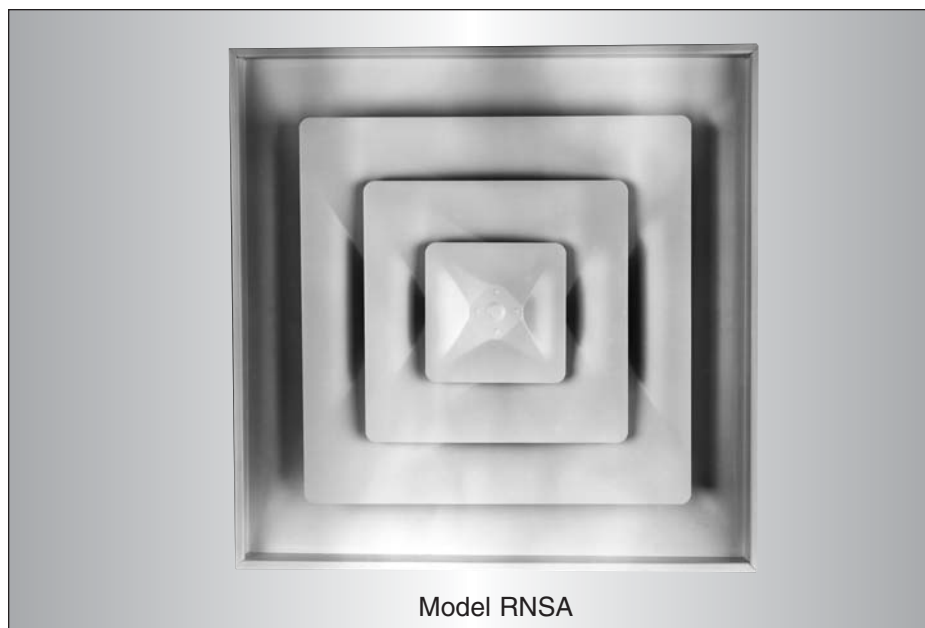
## ADJUSTABLE STAMPED SQUARE CEILING DIFFUSERS

- HIGH PERFORMANCE
- SQUARE FACE
- ROUND NECK
- HORIZONTAL TO VERTICAL ADJUSTABLE DISCHARGE PATTERN

### Models:

RNSA Steel

ARNSA Aluminum



Model RNSA

The **Nailor Models RNSA and ARNSA Adjustable Square Ceiling Air Diffusers** have been specially designed to provide both the unobtrusive appearance required for architectural excellence and the 360° diffusion pattern at minimum NC levels required for high engineering performance. They provide the flexibility of a standard horizontal discharge or near vertical discharge pattern, useful in high ceiling applications where better air penetration or spot heating may be desired. The stamped one-piece cones eliminate mitered corners and the die-formed curves provide consistent quality and performance.

The adjustable diffusers provide stable diffusion and mixing patterns under constant and changing load conditions and are particularly suitable for variable air volume systems. They are available to suit many situations including surface mount, T-Bar lay-in and panel applications. Standard finish is a high quality baked enamel for long life and easy cleaning. A variety of neck sizes are available to suit your system design. The collar is a full 1 1/4" (32) in height for easy, secure connection.

### FEATURES:

- Removable core.
- Steel stamped shapes for uniformity.
- High neck collars for solid connection.
- All 12" x 12" (305 x 305) and 24" x 24" (610 x 610) modules feature four cones in all neck sizes, providing a uniform and balanced appearance. The 20" x 20" (508 x 508) module has three cones.
- Compatible with **Model 4275** Radial Opposed Blade Damper (option).

Other dampers may need adaptors.

- Screwdriver adjustment of the optional balancing damper through the core.
- Optional QB quadrant blanks for 1, 2 and 3-way blow.

**Material:** Heavy gauge corrosion-resistant steel or aluminum with miscellaneous steel components.

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

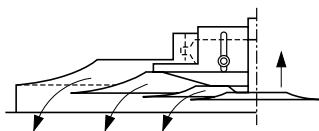
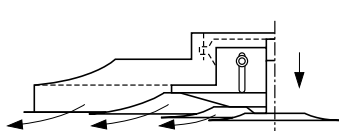
**Adjustment:** Unique design permits gradual adjustment of air pattern from horizontal flow with the inner cone assembly extended to vertical flow by retracting the inner cone assembly. Available as Type 1 or 2.

#### Type 1 'Sliding Type'

Adjusted by sliding the inner cone assembly up or down. Core is securely retained by a spring loaded friction arrangement. Steel or aluminum construction.

##### Horizontal Air Pattern

##### Vertical Air Pattern

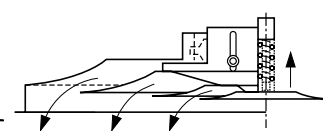
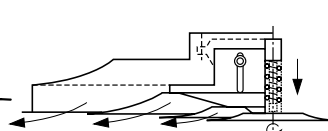


#### Type 2 'Rotating Type'

A unique 'screw type' arrangement where the angle of discharge is varied by rotating the center cone. Steel construction only.

##### Horizontal Air Pattern

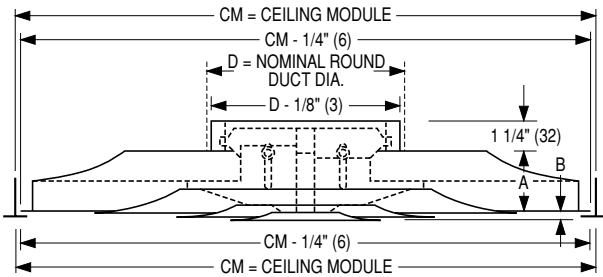
##### Vertical Air Pattern



## Dimensional Data and Frame Types Models RNSA and ARNSA

### Type L Lay-in T-Bar

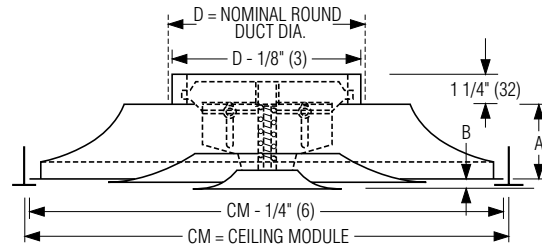
12 x 12 (300 x 300) and 24 x 24 (600 x 600) modules



| Listed Neck Size                                                       | Imperial Modules        |          |                |         | Metric Modules |         |
|------------------------------------------------------------------------|-------------------------|----------|----------------|---------|----------------|---------|
|                                                                        | Imperial Units (inches) |          | SI Units (mm)  |         | SI Units (mm)  |         |
|                                                                        | A                       | B        | A              | B       | A              | B       |
| 6, 8 (inches)<br>152, 203 (metric)                                     | CM = 12 x 12            |          | CM = 305 x 305 |         | CM = 300 x 300 |         |
|                                                                        | 2 1/4                   | 0 to 1/2 | 57             | 0 to 13 | 57             | 0 to 13 |
| 6, 8, 10, 12, 14, 15 (inches)<br>152, 203, 254, 305, 356, 381 (metric) | CM = 24 x 24            |          | CM = 610 x 610 |         | CM = 600 x 600 |         |
|                                                                        | 3 3/4                   | 0 to 3/8 | 95             | 0 to 10 | 95             | 0 to 10 |

### Type L Lay-in T-Bar

20 x 20 (500 x 500) module

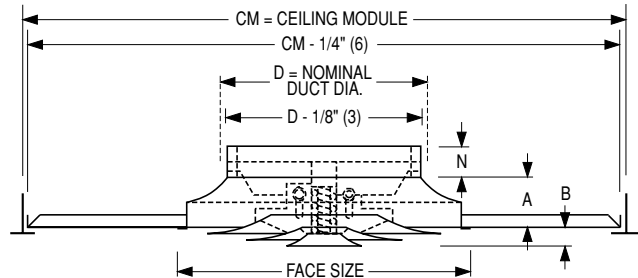


| Listed Neck Size               | Imperial Modules        |          |                |         | Metric Modules |         |
|--------------------------------|-------------------------|----------|----------------|---------|----------------|---------|
|                                | Imperial Units (inches) |          | SI Units (mm)  |         | SI Units (mm)  |         |
|                                | A                       | B        | A              | B       | A              | B       |
| 6 (152)<br>8 (203)<br>10 (254) | CM = 20 x 20            |          | CM = 508 x 508 |         | CM = 500 x 500 |         |
|                                | 3 1/8                   | 0 to 3/8 | 79             | 0 to 10 | 79             | 0 to 10 |

### Type PL Panel Mounted Lay-in T-Bar

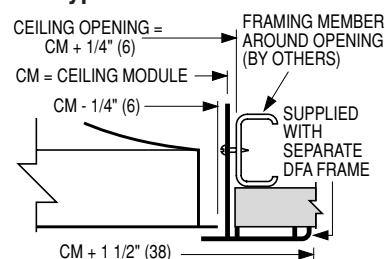
| Listed Neck Size | Imperial Modules (inches) |       |       |        | SI Units (mm)         |    |    |       |
|------------------|---------------------------|-------|-------|--------|-----------------------|----|----|-------|
|                  | Face Size = 12 x 12       |       |       |        | Face Size = 305 x 305 |    |    |       |
|                  | D                         | N     | A     | B      | D                     | N  | A  | B     |
| 4 ★              | 4                         | 3 1/4 | 2 1/4 | 0      | 102                   | 83 | 57 | 0     |
| 5 ★              | 5                         |       |       | to 1/2 | 127                   |    |    | to 13 |
| 6                | 6                         | 1 1/4 | 3 3/4 | to 3/8 | 152                   | 32 | 95 | to 10 |
| 8                | 8                         |       |       |        | 203                   |    |    |       |
| 6                | 6                         | 1 1/4 | 3 3/4 | to 3/8 | 152                   | 32 | 95 | to 10 |
| 8                | 8                         |       |       |        | 203                   |    |    |       |
| 10               | 10                        |       |       |        | 254                   |    |    |       |
| 12               | 12                        |       |       |        | 305                   |    |    |       |
| 14               | 14                        |       |       |        | 356                   |    |    |       |
| 15               | 15                        |       |       |        | 381                   |    |    |       |

★ Supplied with a reducer.

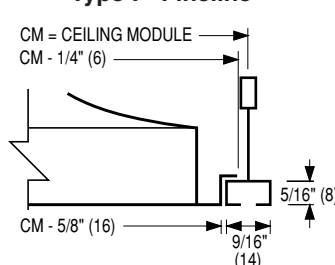


| Available Ceiling Modules CM                                          |               |               |
|-----------------------------------------------------------------------|---------------|---------------|
| Imperial Units (inches)                                               | SI Units (mm) | SI Units (mm) |
| Face Size 12 x 12 (305 x 305)                                         |               |               |
| Listed Neck Sizes 4, 5, 6, 8 (102, 127, 152, 203)                     |               |               |
| 20 x 20                                                               | 508 x 508     | 500 x 500     |
| 24 x 12                                                               | 610 x 305     | 600 x 300     |
| 24 x 24                                                               | 610 x 610     | 600 x 600     |
| Face Size 24 x 24 (610 x 610)                                         |               |               |
| Listed Neck Sizes 6, 8, 10, 12, 14, 15 (152, 203, 254, 305, 356, 381) |               |               |
| 30 x 30                                                               | 762 x 762     | 750 x 750     |
| 48 x 24                                                               | 1219 x 610    | 1200 x 600    |

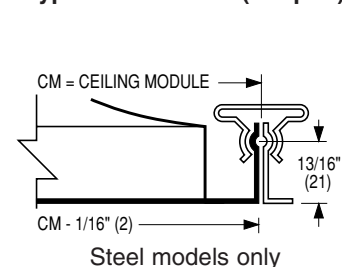
### Type S Surface Mount



### Type F Fineline®



### Type M Metal Pan (Snap-in)



## HOW TO SPECIFY OR TO ORDER

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

### Stamped Square Adjustable Ceiling Diffusers – Models RNSA and ARNSA

**RNSA1 - 08 - 24 x 24 - L - AW - -**

#### MODEL

- Steel, Adjustable 'Sliding Type' RNSA1
- Steel, Adjustable 'Rotating Type' RNSA2
- Aluminum, Adjustable 'Sliding Type' ARNSA

#### NECK SIZE (inches)

- 04, 05, 06, 07, 08
- 10, 12, 14, 15

#### CEILING MODULE SIZE

| Imperial (inches)   | Metric (mm)          |
|---------------------|----------------------|
| - 12 x 12           | 300 x 300            |
| - 20 x 20           | 500 x 500            |
| - 24 x 12 (PL only) | 600 x 300 (PL only)  |
| - 24 x 24           | 600 x 600            |
| - 30 x 30 (PL only) | 750 x 750 (PL only)  |
| - 48 x 24 (PL only) | 1200 x 600 (PL only) |

#### FRAME STYLE

- T-Bar Lay-in L
- Surface Mount S
- Panel T-Bar Lay-in PL
- Spline SP
- Metal Pan Snap-In M
- Fineline® F

#### ACCESSORIES

- None (default) —
- External Foil Back Insulation EX
- Earthquake Tabs EQT
- Quadrant Blanks
  - 3-Way Blow QB3
  - 2-Way Opposite Blow QB2
  - 2-Way Corner Blow QC2
  - 1-Way Blow QB1

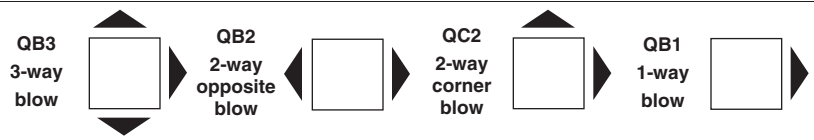
#### AIR BALANCING DEVICES

- Radial Opposed Blade Damper 4275
- Equalizing Grid EGR
- Damper/Equalizing Grid DEGR

#### FINISH

- Appliance White (default) AW
- Aluminum AL
- Special Custom Color SP

#### BLOW PATTERNS WITH OPTIONAL FACTORY INSTALLED QUADRANT BLANKS.



#### Notes:

1. Face sizes 12" x 12" (300 x 300) and 24" x 12" (600 x 300) are available in a 4" (102) through 8" (203) neck, 20" x 20" (500 x 500) face size is available in a 6", 8" or 10" (152, 203 or 254) neck and 24" x 24" (600 x 600) face size is available in a 6" (152) through 15" (381) neck.
2. Face size 20" x 20" (500 x 500) is available only in frame style L.
3. Consult text as to limitations of material, module size and frame style combinations.

#### SUGGESTED SPECIFICATION:

##### RNSA1, RNSA2 – Steel Construction

Furnish and install **Nailor Model** (select one) **RNSA1** or **RNSA2 Adjustable Stamped Square Ceiling Diffusers** of the sizes and capacities as shown on the plans and air distribution schedules. The diffuser shall be manufactured from corrosion-resistant steel and incorporate four die-formed concentric cones in all sizes, except the 20" x 20" (500 x 500) module size which will consist of three cones. Model RNSA1 shall have an adjustable sliding type inner cone assembly that is securely retained by a spring loaded friction arrangement. Model RNSA2 shall have an adjustable rotating type inner cone assembly that is adjusted by rotating the center cone. The inner cone assembly is to be removable using a spring clip arrangement that permits quick, easy installation and removal. The diffuser shall have a removable plug for screwdriver adjustment of the optional damper without removing the inner core. The finish shall be AW Appliance White baked enamel (optional finishes are available).

The manufacturer shall provide published performance data for the diffuser, which shall be tested in accordance with ANSI/ASHRAE Standard 70 – 1991.

##### ARNSA – Aluminum Construction

Furnish and install **Nailor Model ARNSA Adjustable Stamped Square Ceiling Diffusers** of the sizes and capacities as shown on the plans and air distribution schedules. The diffuser shall have four die-formed aluminum concentric cones in all sizes, except the 20" x 20" (500 x 500) module size which will consist of three cones. The diffuser shall have an adjustable sliding type inner cone assembly that is securely retained by a spring loaded friction arrangement. The inner cone assembly is to be removable using a spring clip arrangement that permits quick, easy installation and removal. The diffuser shall have a removable plug for screwdriver adjustment of the optional damper without removing the inner core. The finish shall be AW Appliance White baked enamel (optional finishes are available).

The manufacturer shall provide published performance data for the diffuser, which shall be tested in accordance with ANSI/ASHRAE Standard 70 – 1991.



## Performance Data

### Models RNSA and ARNSA • 12 x 12 (300 x 300) Face Size

| Nominal Neck Size | Neck Velocity, FPM | 400        | 500   | 600   | 700   | 800    | 900    | 1000   | 1200   | 1400    | 1600     |
|-------------------|--------------------|------------|-------|-------|-------|--------|--------|--------|--------|---------|----------|
|                   | VP                 | .010       | .016  | .023  | .031  | .040   | .051   | .063   | .090   | .122    | .160     |
| 6" Dia.           | TP                 | Horizontal | .019  | .028  | .039  | .057   | .074   | .093   | .121   | .150    | .192     |
|                   |                    | Vertical   | .023  | .034  | .057  | .086   | .110   | .146   | .168   | .246    | .316     |
|                   | Airflow, CFM       |            | 80    | 100   | 120   | 140    | 160    | 180    | 200    | 235     | 275      |
|                   | T                  | Horizontal | 1-2-4 | 2-3-6 | 2-3-6 | 3-4-7  | 3-5-7  | 4-5-8  | 4-6-10 | 6-7-11  | 6-8-11   |
|                   |                    | Vertical   | 1-1-2 | 2-2-5 | 2-2-6 | 2-3-5  | 2-3-5  | 3-5-6  | 3-4-7  | 4-5-8   | 5-6-9    |
|                   | NC                 | Horizontal | —     | —     | 12    | 17     | 21     | 23     | 24     | 32      | 38       |
|                   |                    | Vertical   | —     | —     | 16    | 21     | 25     | 27     | 28     | 36      | 42       |
| 8" Dia.           | TP                 | Horizontal | .020  | .031  | .043  | .059   | .071   | .090   | .110   | .150    | .200     |
|                   |                    | Vertical   | .032  | .052  | .063  | .096   | .120   | .159   | .186   | .258    | .342     |
|                   | Airflow, CFM       |            | 140   | 175   | 210   | 245    | 280    | 315    | 350    | 420     | 490      |
|                   | T                  | Horizontal | 2-3-6 | 3-5-8 | 4-5-8 | 4-7-10 | 5-7-12 | 6-9-14 | 8-9-15 | 8-10-16 | 10-12-18 |
|                   |                    | Vertical   | 2-2-3 | 3-4-7 | 3-5-6 | 4-6-9  | 4-6-9  | 5-7-10 | 6-8-11 | 7-9-12  | 8-9-13   |
|                   | NC                 | Horizontal | —     | 11    | 17    | 22     | 25     | 27     | 29     | 36      | 44       |
|                   |                    | Vertical   | —     | —     | 21    | 26     | 29     | 31     | 33     | 40      | 48       |

### Models RNSA and ARNSA • 20 x 20 (500 x 500) Face Size

| Nominal Neck Size | Neck Velocity, FPM | 400        | 500   | 600   | 700   | 800    | 900    | 1000   | 1200   | 1400   | 1600    |
|-------------------|--------------------|------------|-------|-------|-------|--------|--------|--------|--------|--------|---------|
|                   | VP                 | .010       | .016  | .023  | .031  | .040   | .051   | .063   | .090   | .122   | .160    |
| 6" Dia.           | TP                 | Horizontal | .017  | .026  | .038  | .051   | .067   | .085   | .105   | .149   | .202    |
|                   |                    | Vertical   | .023  | .036  | .052  | .070   | .091   | .116   | .143   | .201   | .274    |
|                   | Airflow, CFM       |            | 80    | 100   | 120   | 140    | 160    | 180    | 200    | 235    | 275     |
|                   | T                  | Horizontal | 1-2-4 | 2-2-5 | 2-3-6 | 2-4-6  | 3-5-6  | 4-5-7  | 4-5-7  | 4-6-8  | 5-6-8   |
|                   |                    | Vertical   | 1-1-2 | 2-2-3 | 2-2-4 | 2-3-5  | 2-4-5  | 3-5-6  | 3-5-7  | 4-5-8  | 4-6-9   |
|                   | NC                 | Horizontal | —     | 12    | 17    | 22     | 25     | 29     | 32     | 37     | 41      |
|                   |                    | Vertical   | —     | 17    | 22    | 26     | 29     | 32     | 35     | 40     | 44      |
| 8" Dia.           | TP                 | Horizontal | .019  | .031  | .044  | .059   | .077   | .098   | .120   | .173   | .235    |
|                   |                    | Vertical   | .031  | .049  | .070  | .094   | .122   | .155   | .192   | .275   | .373    |
|                   | Airflow, CFM       |            | 140   | 175   | 210   | 245    | 280    | 315    | 350    | 420    | 490     |
|                   | T                  | Horizontal | 2-3-5 | 2-3-7 | 3-4-8 | 3-5-8  | 3-5-9  | 4-6-9  | 4-7-10 | 5-8-11 | 6-8-12  |
|                   |                    | Vertical   | 1-1-4 | 1-2-5 | 2-3-6 | 3-4-6  | 3-4-8  | 4-5-8  | 4-6-9  | 4-7-10 | 5-7-10  |
|                   | NC                 | Horizontal | —     | —     | 15    | 20     | 24     | 28     | 31     | 38     | 43      |
|                   |                    | Vertical   | 14    | 19    | 24    | 29     | 32     | 35     | 38     | 44     | 48      |
| 10" Dia.          | TP                 | Horizontal | .024  | .039  | .056  | .076   | .098   | .125   | .153   | .220   | .299    |
|                   |                    | Vertical   | .041  | .065  | .094  | .127   | .165   | .209   | .258   | .370   | .502    |
|                   | Airflow, CFM       |            | 220   | 270   | 330   | 380    | 435    | 490    | 545    | 655    | 765     |
|                   | T                  | Horizontal | 2-4-7 | 3-5-8 | 4-6-9 | 4-7-10 | 5-7-10 | 6-8-11 | 6-8-12 | 7-9-13 | 8-10-14 |
|                   |                    | Vertical   | 1-2-4 | 1-3-6 | 3-5-7 | 3-5-8  | 4-5-9  | 4-6-10 | 5-6-10 | 5-7-11 | 6-8-12  |
|                   | NC                 | Horizontal | —     | —     | 16    | 21     | 26     | 30     | 33     | 39     | 45      |
|                   |                    | Vertical   | —     | 20    | 25    | 29     | 33     | 36     | 39     | 44     | 48      |

For performance notes, see next page.

## Performance Data

### Models RNSA and ARNSA • 24 x 24 (600 x 600) Face Size

| Nominal Neck Size | Neck Velocity, FPM | 400        | 500   | 600   | 700    | 800     | 900      | 1000     | 1200     | 1400     | 1600     |
|-------------------|--------------------|------------|-------|-------|--------|---------|----------|----------|----------|----------|----------|
|                   | VP                 | .010       | .016  | .023  | .031   | .040    | .051     | .063     | .090     | .122     | .160     |
| 6" Dia.           | TP                 | Horizontal | .016  | .024  | .034   | .047    | .061     | .078     | .098     | .129     | .182     |
|                   |                    | Vertical   | .020  | .031  | .052   | .080    | .097     | .124     | .151     | .218     | .289     |
|                   | Airflow, CFM       |            | 80    | 100   | 120    | 140     | 160      | 180      | 200      | 235      | 315      |
|                   | T                  | Horizontal | 1-2-5 | 2-3-5 | 2-3-6  | 3-4-7   | 3-5-8    | 4-5-8    | 4-6-9    | 6-8-10   | 6-10-11  |
|                   |                    | Vertical   | 1-1-2 | 2-2-3 | 2-2-4  | 2-3-5   | 2-4-5    | 3-5-6    | 3-5-7    | 4-5-8    | 4-6-9    |
|                   | NC                 | Horizontal | —     | —     | —      | 13      | 17       | 20       | 22       | 28       | 32       |
|                   |                    | Vertical   | —     | —     | —      | 15      | 19       | 22       | 24       | 30       | 34       |
| 8" Dia.           | TP                 | Horizontal | .017  | .026  | .037   | .049    | .062     | .080     | .102     | .131     | .185     |
|                   |                    | Vertical   | .025  | .040  | .057   | .077    | .100     | .126     | .153     | .221     | .297     |
|                   | Airflow, CFM       |            | 140   | 175   | 210    | 245     | 280      | 315      | 350      | 420      | 490      |
|                   | T                  | Horizontal | 1-2-5 | 2-4-6 | 3-5-7  | 3-5-8   | 4-6-9    | 4-7-10   | 4-7-11   | 5-8-12   | 6-9-13   |
|                   |                    | Vertical   | 1-1-4 | 1-2-5 | 2-3-6  | 3-4-6   | 3-4-8    | 4-5-8    | 4-6-9    | 5-7-10   | 5-7-11   |
|                   | NC                 | Horizontal | —     | —     | 13     | 18      | 21       | 22       | 26       | 32       | 38       |
|                   |                    | Vertical   | —     | —     | 17     | 20      | 25       | 26       | 30       | 36       | 42       |
| 10" Dia.          | TP                 | Horizontal | .014  | .021  | .030   | .039    | .052     | .065     | .080     | .112     | .152     |
|                   |                    | Vertical   | .030  | .048  | .070   | .092    | .120     | .161     | .196     | .264     | .360     |
|                   | Airflow, CFM       |            | 220   | 270   | 330    | 380     | 435      | 490      | 545      | 655      | 765      |
|                   | T                  | Horizontal | 1-4-6 | 3-5-9 | 3-6-9  | 4-7-10  | 5-7-11   | 5-9-13   | 6-10-14  | 7-11-15  | 8-11-16  |
|                   |                    | Vertical   | 1-2-4 | 1-3-6 | 3-5-7  | 3-5-8   | 4-5-9    | 4-6-10   | 5-6-10   | 5-7-11   | 6-8-12   |
|                   | NC                 | Horizontal | —     | 10    | 15     | 21      | 26       | 30       | 33       | 38       | 43       |
|                   |                    | Vertical   | —     | 14    | 19     | 25      | 31       | 34       | 37       | 42       | 47       |
| 12" Dia.          | TP                 | Horizontal | .016  | .025  | .032   | .043    | .056     | .072     | .085     | .129     | .163     |
|                   |                    | Vertical   | .045  | .069  | .088   | .120    | .155     | .204     | .240     | .360     | .455     |
|                   | Airflow, CFM       |            | 315   | 390   | 470    | 550     | 630      | 705      | 785      | 950      | 1100     |
|                   | T                  | Horizontal | 2-3-7 | 3-6-9 | 4-7-10 | 5-8-12  | 6-9-14   | 6-10-15  | 7-10-16  | 8-11-17  | 9-12-18  |
|                   |                    | Vertical   | 2-3-5 | 2-4-6 | 3-6-7  | 5-6-9   | 5-7-10   | 5-7-10   | 6-7-12   | 7-8-12   | 8-10-14  |
|                   | NC                 | Horizontal | —     | 15    | 22     | 25      | 30       | 33       | 36       | 43       | 45       |
|                   |                    | Vertical   | 12    | 18    | 25     | 28      | 33       | 36       | 39       | 46       | 48       |
| 14" Dia.          | TP                 | Horizontal | .063  | .101  | .135   | .160    | .203     | .261     | .326     | .411     | .583     |
|                   |                    | Vertical   | .022  | .037  | .049   | .057    | .073     | .092     | .115     | .147     | .208     |
|                   | Airflow, CFM       |            | 425   | 530   | 635    | 745     | 855      | 960      | 1070     | 1285     | 1500     |
|                   | T                  | Horizontal | 2-4-8 | 4-5-8 | 5-6-10 | 6-8-12  | 7-10-14  | 8-10-16  | 9-11-17  | 10-11-18 | 11-12-20 |
|                   |                    | Vertical   | 2-3-5 | 4-4-6 | 4-5-9  | 5-7-10  | 6-9-12   | 7-9-13   | 8-9-14   | 9-10-15  | 10-11-16 |
|                   | NC                 | Horizontal | —     | 16    | 22     | 25      | 29       | 33       | 36       | 40       | 42       |
|                   |                    | Vertical   | 11    | 19    | 25     | 28      | 32       | 36       | 39       | 43       | 45       |
| 15" Dia.          | TP                 | Horizontal | .030  | .041  | .054   | .062    | .080     | .100     | .128     | .155     | .224     |
|                   |                    | Vertical   | .068  | .110  | .143   | .165    | .210     | .271     | .330     | .425     | .590     |
|                   | Airflow, CFM       |            | 490   | 615   | 735    | 860     | 985      | 1110     | 1230     | 1470     | 1720     |
|                   | T                  | Horizontal | 5-6-8 | 5-8-9 | 8-9-11 | 9-10-12 | 10-10-13 | 11-12-15 | 12-12-16 | 12-14-18 | 14-15-20 |
|                   |                    | Vertical   | 3-4-6 | 3-4-7 | 5-6-8  | 6-7-9   | 6-8-10   | 8-9-11   | 10-11-12 | 11-12-14 | 11-14-16 |
|                   | NC                 | Horizontal | 10    | 18    | 24     | 30      | 34       | 37       | 40       | 42       | 48       |
|                   |                    | Vertical   | 13    | 21    | 27     | 33      | 37       | 40       | 43       | 45       | 51       |

CFM - cubic feet per minute

FPM - feet per minute velocity

TP - total pressure - inches w.g.

VP - velocity pressure - inches w.g.

T - throw in feet

NC - Noise Criteria (values) based on 10 dB room absorption, re 10<sup>-12</sup> watts.

#### Performance Notes:

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

2. Horizontal throws are with ceiling coanda effect. For exposed duct mounting, multiply table values by x 0.7. Vertical throw is a free jet.

3. Data derived from tests conducted in accordance with ANSI/ASHRAE Standard 70 – 1991.

## STAMPED SQUARE CEILING DIFFUSERS

- HIGH PERFORMANCE
- SQUARE FACE
- ROUND NECK
- STEEL

**Model:**

**RNS2 Steel**



The **Nailor Model RNS2 Square Ceiling Air Diffuser** has been specially designed to provide the mechanical engineer with the most cost effective engineered diffuser currently available in the industry. It combines the high performance expected from a louvered face type ceiling diffuser with a cost as low as any lesser performing commercial diffuser currently available. The **RNS2** has a 360° diffusion pattern at minimum NC levels required for high engineering performance. The diffuser provides stable diffusion and mixing patterns under constant and changing load conditions and is eminently suitable for variable air volume systems. It can accommodate a turn down of 80% without losing the ceiling coanda effect and dumping. The stamped one-piece cones eliminate mitered corners and the die-formed curves provide consistent quality and performance.

The **Model RNS2** diffusers are available to suit many situations including surface mount, T-Bar lay-in and panel applications. Standard finish is a high quality, baked enamel for long life and easy cleaning. A variety of neck sizes are available to suit your system design. The collar is a full 1 1/4" (32) in height for easy, secure connection.

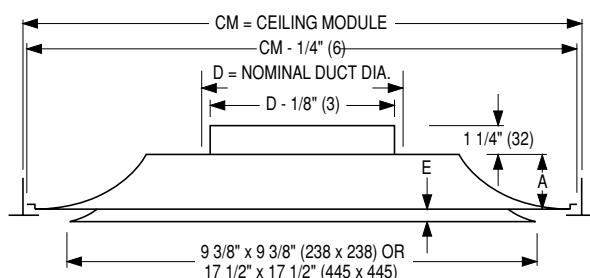
### FEATURES:

- Engineered air diffusion pattern.
- Steel stamped shapes for uniformity.
- High neck collars for solid connection.
- With 2 cones in all sizes, the diffusers provide a uniform appearance.
- Screwdriver adjustment of optional balancing damper is achieved through the inner cone assembly.
- Optional QB Quadrant Blanks for 1, 2 and 3-way blow.

**Material:** Heavy gauge, corrosion-resistant steel.

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

### Type L Lay-in T-Bar Frame

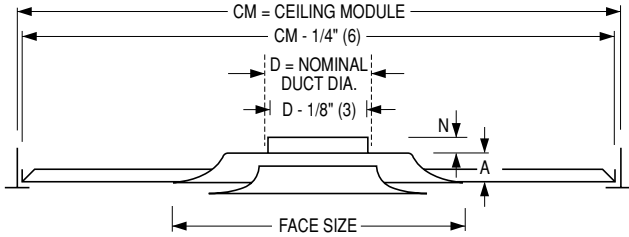


### Dimensional Data

| Ceiling Module CM |                | Imperial Units (inches) |        |    |        |        |                              | Metric Units (mm) |     |    |     |  |  |
|-------------------|----------------|-------------------------|--------|----|--------|--------|------------------------------|-------------------|-----|----|-----|--|--|
| Imperial Modules  | Metric Modules | Duct Size D             | A      | B  | E      | F      | Duct Size D                  | A                 | B   | E  | F   |  |  |
| 12 x 12           | 300 x 300      | 6, 8                    | 1      | 11 | 1 5/16 | 13     | 152, 203                     | 25                | 279 | 33 | 330 |  |  |
| 24 x 24           | 600 x 600      | 6, 8, 10, 12, 14, 15    | 2 5/16 | 22 | 15/16  | 24 3/4 | 152, 203, 254, 305, 356, 381 | 59                | 519 | 24 | 629 |  |  |

## Dimensional Data and Frame Types Model RNS2

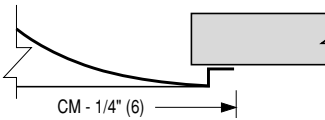
**Type PL Panel Mounted Lay-in T-Bar**



| CM               |                | Imperial Units (inches) |                      |       |        | Metric Units (mm) |                              |    |    |
|------------------|----------------|-------------------------|----------------------|-------|--------|-------------------|------------------------------|----|----|
| Imperial Modules | Metric Modules | Face Size               | Duct Size D          | N     | A      | Face Size         | Duct Size D                  | N  | A  |
| 24 x 24          | 600 x 600      | 12                      | 6,                   | 1 1/4 | 1      | 300               | 152,                         | 32 | 25 |
| 24 x 12          | 600 x 300      | x                       | 8                    |       |        | x                 | 203                          |    |    |
| 20 x 20          | 500 x 500      | 12                      |                      |       |        | 300               |                              |    |    |
| 48 x 24          | 1200 x 600     | 24                      | 6, 8, 10, 12, 14, 15 | 1 1/4 | 2 5/16 | 600               | 152, 203, 254, 305, 356, 381 | 32 | 59 |

**Type L Surface Mount**

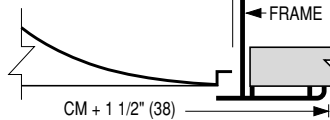
CM = CEILING MODULE  
CEILING OPENING = B



Hard duct connection recommended.

**Type L Surface Mount with DFA**

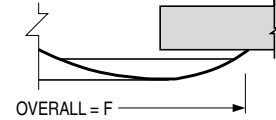
CEILING OPENING = CM + 1/4" (6)  
CM = CEILING MODULE  
CM - 1/4" (6)



Drywall/Plaster Frame. Recommended for flexible duct and ceiling access.

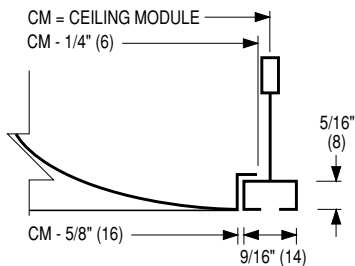
**Type S Surface Mount**

CM = CEILING MODULE  
CEILING OPENING = CM - 1" (25)

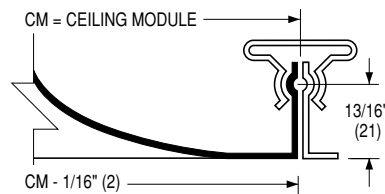


Hard duct connection recommended.

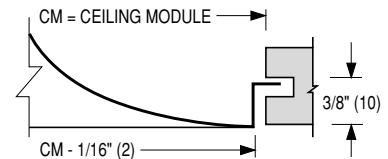
**Type F Fineline®**



**Type M Metal Pan (Snap-in)**



**Type SP Spline**



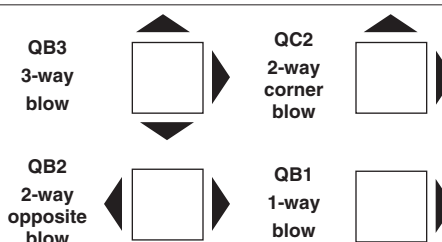
For one directional exposed T-bar or fully concealed grid. One spline on two opposite sides, steel lift bracket on others.

## HOW TO SPECIFY OR TO ORDER

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

## Stamped Square Ceiling Diffusers – Model RNS2

|                            |                     |                                         |         |
|----------------------------|---------------------|-----------------------------------------|---------|
|                            |                     | <b>RNS2 - 08 - 24 x 24 - L - AW - -</b> |         |
| <b>MODEL</b>               |                     | <b>ACCESSORIES</b>                      |         |
| - Steel, Fixed Pattern     |                     | - None (default)                        | —       |
| RNS2                       |                     | - External Foil Back Insulation         | EX      |
| <b>NECK SIZE (inches)</b>  |                     | - Earthquake Tabs                       | EQT     |
| - 06, 08,                  |                     | - Quadrant Blanks                       |         |
| - 10, 12, 14, 15           |                     | 3-Way Blow                              | QB3     |
| <b>CEILING MODULE SIZE</b> |                     | 2-Way Opposite Blow                     | QB2     |
| <b>Imperial (inches)</b>   |                     | 2-Way Corner Blow                       | QC2     |
| <b>Metric (mm)</b>         |                     | 1-Way Blow                              | QB1     |
| - 12 x 12                  | 300 x 300           | <b>AIR BALANCING DEVICES</b>            |         |
| - 20 x 20 (PL only)        | 500 x 500 (PL only) | - Radial Sliding Blade Damper           | 4250    |
| - 24 x 12 (PL only)        | 600 x 300 (PL only) | - Radial Opposed Blade Damper           | 4275    |
| - 24 x 24                  | 600 x 600           | - Radial OBD with Operating Arm         | 4275-OA |
| <b>FRAME STYLE</b>         |                     | - Butterfly Damper                      | 4675    |
| - T-Bar Lay-in             | L                   | - Equalizing Grid                       | EGR     |
| - Surface Mount            | S                   | - Damper/Equalizing Grid                | DEGR    |
| - Panel T-Bar Lay-in       | PL                  | <b>FINISH</b>                           |         |
| - Spline                   | SP                  | - Appliance White (default)             | AW      |
| - Metal Pan Snap-In        | M                   | - Aluminum                              | AL      |
| - Finline®                 | F                   | - Special Custom Color                  | SP      |

BLOW PATTERNS WITH OPTIONAL  
FACTORY INSTALLED QUADRANT BLANKS.

## Notes:

1. Face sizes 12" x 12" (300 x 300) and 24" x 12" (600 x 300) are limited to a 6" (152) or 8" (203) neck and 24" x 24" (600 x 600) is available in a 6" (152) through 15" (381) neck.

## SUGGESTED SPECIFICATION:

Furnish and install **Nailor Model RNS2 Stamped Square Ceiling Diffusers** of the sizes and capacities as shown on the plans and air distribution schedules. The diffuser shall be manufactured from corrosion-resistant steel and incorporate two die-formed concentric cones. The diffuser shall have a removable plug for screwdriver adjustment of the optional damper without removing the inner core. The finish shall be AW Appliance White baked enamel (optional finishes are available).

The manufacturer shall provide published performance data for the diffuser, which shall be tested in accordance with ANSI/ASHRAE Standard 70 – 1991.

## Performance Data

### Model RNS2 • 12 x 12 (300 x 300) Face Size

| Nominal Neck Size | Neck Velocity, FPM | 400    | 500    | 600    | 700    | 800     | 900     | 1000    | 1200     | 1400     | 1600     |
|-------------------|--------------------|--------|--------|--------|--------|---------|---------|---------|----------|----------|----------|
|                   | VP                 | .010   | .016   | .023   | .031   | .040    | .051    | .063    | .090     | .122     | .160     |
| 6" Dia.           | TP                 | .021   | .032   | .045   | .060   | .080    | .100    | .120    | .167     | .220     | .290     |
|                   | Airflow, CFM       | 80     | 100    | 120    | 140    | 160     | 180     | 200     | 235      | 275      | 315      |
|                   | T                  | 1-2-6  | 2-3-8  | 2-4-10 | 3-5-11 | 3-6-12  | 4-7-13  | 5-9-14  | 7-10-15  | 8-11-17  | 9-13-18  |
|                   | NC                 | —      | —      | —      | —      | —       | —       | —       | 14       | 24       | 34       |
| 8" Dia.           | TP                 | .025   | .037   | .052   | .070   | .091    | .113    | .138    | .195     | .260     | .340     |
|                   | Airflow, CFM       | 140    | 175    | 210    | 245    | 280     | 315     | 350     | 420      | 490      | 560      |
|                   | T                  | 2-4-10 | 3-6-13 | 4-8-15 | 5-9-16 | 7-11-17 | 8-12-19 | 9-14-20 | 11-16-22 | 13-17-23 | 15-18-26 |
|                   | NC                 | —      | —      | —      | —      | —       | —       | 10      | 19       | 27       | 34       |

### Model RNS2 • 24 x 24 (600 x 600) Face Size

| Nominal Neck Size | Neck Velocity, FPM | 400   | 500    | 600    | 700    | 800    | 900     | 1000    | 1200    | 1400     | 1600     |
|-------------------|--------------------|-------|--------|--------|--------|--------|---------|---------|---------|----------|----------|
|                   | VP                 | .010  | .016   | .023   | .031   | .040   | .051    | .063    | .090    | .122     | .160     |
| 6" Dia.           | TP                 | .026  | .040   | .058   | .080   | .104   | .131    | .190    | .262    | .350     | .500     |
|                   | Airflow, CFM       | 80    | 100    | 120    | 140    | 160    | 180     | 200     | 235     | 275      | 315      |
|                   | T                  | 1-2-4 | 1-2-5  | 2-2-6  | 2-3-7  | 2-4-8  | 2-4-9   | 3-5-9   | 4-6-10  | 5-7-12   | 6-8-13   |
|                   | NC                 | —     | —      | —      | 11     | 14     | 18      | 21      | 27      | 33       | 38       |
| 8" Dia.           | TP                 | .043  | .065   | .092   | .125   | .165   | .210    | .257    | .400    | .540     | .740     |
|                   | Airflow, CFM       | 140   | 175    | 210    | 245    | 280    | 315     | 350     | 420     | 490      | 560      |
|                   | T                  | 1-3-5 | 2-3-6  | 2-4-7  | 3-4-8  | 3-5-9  | 4-5-10  | 5-6-11  | 6-7-13  | 6-8-14   | 7-9-15   |
|                   | NC                 | —     | 11     | 16     | 20     | 23     | 27      | 30      | 37      | 42       | 47       |
| 10" Dia.          | TP                 | .045  | .069   | .098   | .137   | .176   | .225    | .274    | .421    | .568     | .774     |
|                   | Airflow, CFM       | 220   | 270    | 330    | 380    | 435    | 490     | 545     | 655     | 765      | 870      |
|                   | T                  | 1-3-6 | 2-3-7  | 2-4-8  | 3-4-10 | 4-5-11 | 5-6-12  | 5-7-13  | 6-8-14  | 7-9-15   | 8-10-16  |
|                   | NC                 | 10    | 15     | 20     | 24     | 28     | 32      | 35      | 40      | 45       | 50       |
| 12" Dia.          | TP                 | .046  | .070   | .100   | .140   | .180   | .230    | .280    | .430    | .580     | .790     |
|                   | Airflow, CFM       | 315   | 390    | 470    | 550    | 630    | 705     | 785     | 990     | 1100     | 1255     |
|                   | T                  | 3-4-7 | 4-5-9  | 4-6-10 | 5-7-11 | 6-8-12 | 7-9-13  | 7-10-14 | 8-11-15 | 9-12-16  | 10-13-17 |
|                   | NC                 | 11    | 16     | 21     | 25     | 29     | 33      | 36      | 41      | 46       | 51       |
| 14" Dia.          | TP                 | .047  | .072   | .104   | .145   | .185   | .240    | .285    | .440    | .590     | .805     |
|                   | Airflow, CFM       | 425   | 530    | 635    | 745    | 850    | 955     | 1060    | 1270    | 1490     | 1695     |
|                   | T                  | 3-4-7 | 4-5-9  | 4-6-10 | 5-7-11 | 6-8-12 | 7-9-13  | 7-10-14 | 8-11-15 | 9-12-16  | 10-13-17 |
|                   | NC                 | 13    | 18     | 23     | 27     | 31     | 34      | 37      | 43      | 53       | 57       |
| 15" Dia.          | TP                 | .048  | .075   | .110   | .150   | .195   | .250    | .300    | .455    | .610     | .825     |
|                   | Airflow, CFM       | 490   | 615    | 735    | 860    | 985    | 1110    | 1230    | 1470    | 1720     | 1970     |
|                   | T                  | 4-5-8 | 4-6-10 | 5-7-11 | 6-8-12 | 6-9-13 | 7-10-14 | 8-10-15 | 9-12-16 | 10-13-17 | 11-14-18 |
|                   | NC                 | 14    | 19     | 24     | 29     | 32     | 36      | 39      | 45      | 56       | 60       |

**CFM** - cubic feet per minute

**FPM** - feet per minute velocity

**TP** - total pressure - inches w.g.

**VP** - velocity pressure - inches w.g.

**T** - throw in feet

**NC** - Noise Criteria (values) based on 10 dB room absorption, re 10<sup>-12</sup> watts.

#### Performance Notes:

1. Horizontal throws are given at 150, 100 and 50 fpm terminal velocities under isothermal conditions.

2. Data derived from tests conducted in accordance with ANSI/ASHRAE Standard 70 – 1991.

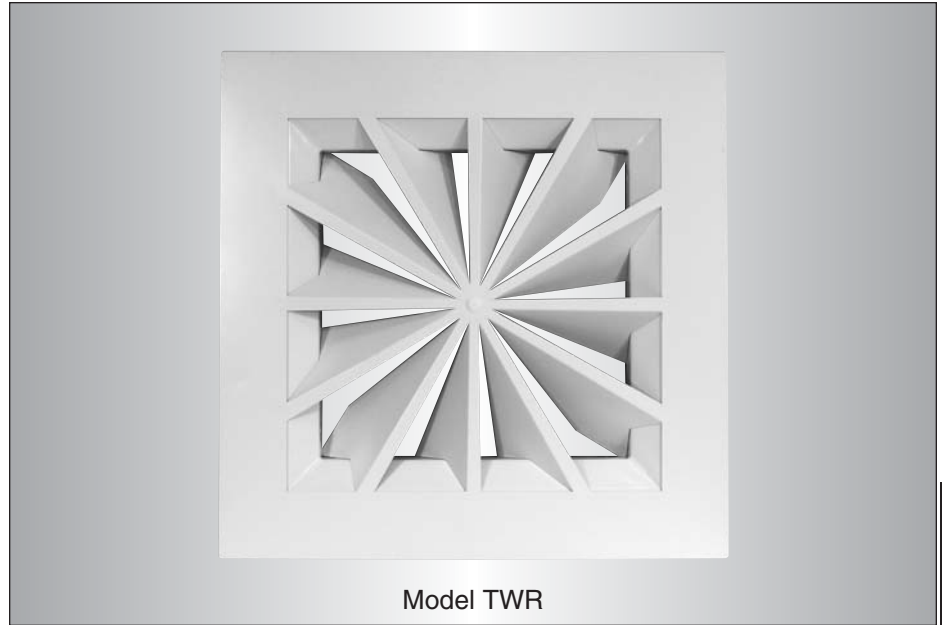
| Neck Size Diameter in Inches | Nominal Overall Face Size | Ak Factor |
|------------------------------|---------------------------|-----------|
| 6                            | 12 x 12                   | 0.157     |
| 8                            | 12 x 12                   | 0.232     |
| 6                            | 24 x 24                   | 0.185     |
| 8                            | 24 x 24                   | 0.226     |
| 10                           | 24 x 24                   | 0.285     |
| 12                           | 24 x 24                   | 0.382     |
| 14                           | 24 x 24                   | 0.505     |
| 15                           | 24 x 24                   | 0.577     |



## "TWISTER" STAMPED CEILING SWIRL DIFFUSER

- HIGH PERFORMANCE
- HIGH INDUCTION
- ROUND NECK

**Model:**  
**TWR Steel**



The **Nailor Model Series TWR "Twister" Stamped Square Ceiling Diffuser** is a high performance ceiling diffuser that is ideal for VAV applications. The name "Twister" is given to this diffuser because of its tight horizontal 360° swirl air pattern. The contemporary architectural radial vane design produces an unmatched high induction swirl pattern engineered to optimize occupant comfort by minimizing stratification over a wide range of air volumes. The "Twister's" superior coanda effect air pattern eliminates dumping and is ideal for VAV applications.

The diffuser features the popular 2' x 2' (600 x 600) module size and is available with frame/border styles to suit all ceiling systems. The round neck design includes a full 1 1/4" (32) high collar for an easy, secure connection.

### FEATURES:

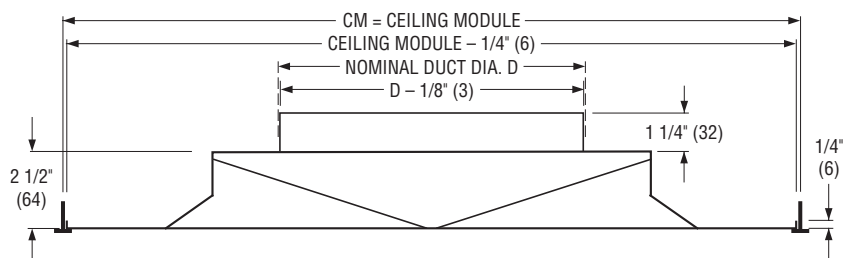
- Constructed from heavy gauge corrosion-resistant steel.
- Stamped face design allows for uniformity of the radial vanes.
- Superior coanda effect air pattern, eliminates dumping and is ideal for VAV applications.
- 24" x 24" (600 x 600) ceiling module size available with frame/border types to suit all ceiling systems.
- Engineered 'swirl' air diffusion pattern.
- Designed for 60 – 750 cfm; available in five neck sizes 6" – 14" (152 – 356).
- High neck collars for solid connection.
- Removable plug for screwdriver adjustment of the optional damper from below the face.

**Material:** Heavy gauge, corrosion-resistant steel.

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

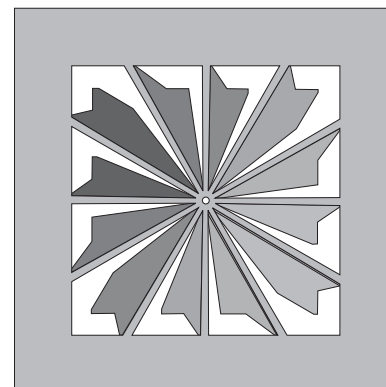
## Dimensional Data and Frame Types Model TWR

**Type L Lay-in T-Bar Frame**



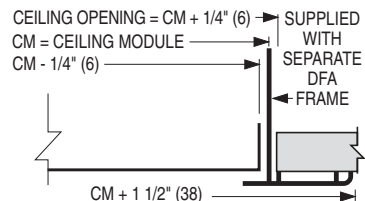
### DIMENSIONAL DATA:

| CEILING MODULE CM      |                     | NOMINAL DUCT SIZE D  |                         |
|------------------------|---------------------|----------------------|-------------------------|
| Imperial Modules (in.) | Metric Modules (mm) | Imperial Units (in.) | Metric Units (mm)       |
| 24 x 24                | 600 x 600           | 6, 8, 10, 12, 14     | 152, 203, 254, 305, 356 |



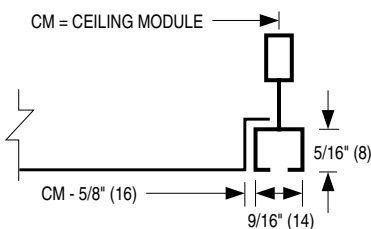
**FACE VIEW**

**Type L Surface Mount with DFA**

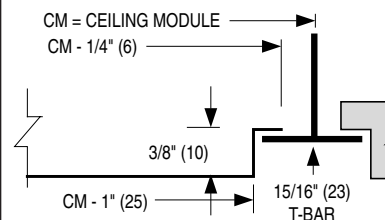


Drywall/Plaster Frame. Recommended for flexible duct and ceiling access.

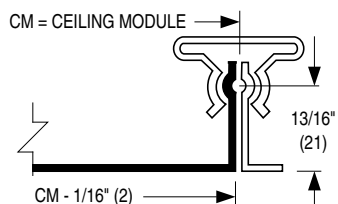
**Type F Fineline®**



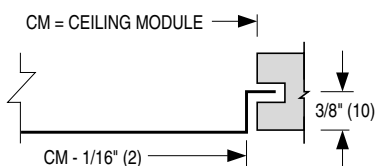
**Type TL Tegular Lay-in**



**Type M Metal Pan (Snap-in)**



**Type SP Spline**



For one directional exposed T-bar or fully concealed grid. One spline on two opposite sides, steel lift bracket on others.

## HOW TO SPECIFY OR TO ORDER

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

### "Twister" Stamped Square Ceiling Swirl Diffuser – Model TWR

|                            |                    |                                        |      |
|----------------------------|--------------------|----------------------------------------|------|
|                            |                    | <b>TWR - 08 - 24 x 24 - L - AW - -</b> |      |
| <b>MODEL</b>               | _____              |                                        |      |
| - Steel Construction       | TWR                |                                        |      |
| <b>NECK SIZE (inches)</b>  | _____              |                                        |      |
| - 06, 08, 10, 12, 14       |                    |                                        |      |
| <b>CEILING MODULE SIZE</b> | _____              |                                        |      |
| <b>Imperial (inches)</b>   | <b>Metric (mm)</b> |                                        |      |
| - 24 x 24                  | 600 x 600          |                                        |      |
| <b>FRAME STYLE</b>         | _____              |                                        |      |
| - T-Bar Lay-in             | L                  |                                        |      |
| - Spline                   | SP                 |                                        |      |
| - Metal Pan Snap-In        | M                  |                                        |      |
| - Fineline®                | F                  |                                        |      |
| - Tegular                  | TL                 |                                        |      |
|                            |                    | <b>ACCESSORIES</b>                     |      |
|                            |                    | - None (default)                       | —    |
|                            |                    | - Earthquake Tabs                      | EQT  |
|                            |                    | <b>AIR BALANCING DEVICES</b>           |      |
|                            |                    | - Radial Sliding Blade Damper          | 4250 |
|                            |                    | - Radial Opposed Blade Damper          | 4275 |
|                            |                    | - Butterfly Damper                     | 4675 |
|                            |                    | - Equalizing Grid                      | EGR  |
|                            |                    | - Damper/Equalizing Grid               | DEGR |
|                            |                    | <b>FINISH</b>                          |      |
|                            |                    | - Appliance White (default)            | AW   |
|                            |                    | - Aluminum                             | AL   |
|                            |                    | - Special Custom Color                 | SP   |

**D**

**CEILING DIFFUSERS**

#### SUGGESTED SPECIFICATION:

Furnish and install **Nailor Model TWR "Twister" Ceiling Swirl Diffusers** of the sizes and capacities as shown on the plans and air distribution schedules. The diffuser shall be manufactured from heavy gauge corrosion-resistant steel. Radial induction vanes shall be one-piece stamped construction. The diffuser is to be sized to suit a 24" x 24" (600 x 600) ceiling suspension system. The round duct connection collar shall be an integral part of the diffuser assembly, and be not less than 1 1/4" (38) high. The diffuser shall have a removable plug for screwdriver adjustment of the optional damper. The finish shall be AW Appliance White baked enamel (optional finishes are available).

The manufacturer shall provide published performance data for the diffuser, which shall be tested in accordance with ANSI/ASHRAE Standard 70 – 1991.

## Performance Data

### Model TWR "Twister" • 24 x 24 (600 x 600) Module

| Nominal Neck Size | Neck Velocity, fpm | 300    | 400    | 500     | 600     | 700      | 800      | 900      | 1000     | 1200     | 1400     | 1600     |
|-------------------|--------------------|--------|--------|---------|---------|----------|----------|----------|----------|----------|----------|----------|
|                   | Velocity Pressure  | .006   | .010   | .016    | .023    | .031     | .040     | .051     | .063     | .090     | .122     | .160     |
| 6" Dia.           | Total Pressure     | .014   | .026   | .041    | .058    | .079     | .102     | .131     | .162     | .212     | .315     | .413     |
|                   | Airflow, cfm       | 60     | 80     | 100     | 120     | 140      | 160      | 180      | 200      | 235      | 275      | 315      |
|                   | Throw              | 1-1-3  | 1-2-4  | 2-3-5   | 2-3-6   | 2-4-7    | 3-4-8    | 3-5-9    | 4-5-10   | 4-6-11   | 5-7-11   | 5-8-12   |
|                   | NC                 | —      | —      | —       | —       | —        | 16       | 20       | 24       | 30       | 35       | 38       |
| 8" Dia.           | Total Pressure     | .015   | .027   | .042    | .060    | .082     | .107     | .136     | .168     | .242     | .329     | .430     |
|                   | Airflow, cfm       | 105    | 140    | 175     | 210     | 245      | 280      | 315      | 350      | 420      | 490      | 560      |
|                   | Throw              | 2-3-5  | 2-4-7  | 3-5-9   | 4-5-10  | 4-6-11   | 5-7-11   | 5-8-12   | 6-9-12   | 7-10-14  | 8-10-15  | 9-11-16  |
|                   | NC                 | —      | —      | —       | —       | 17       | 22       | 25       | 29       | 34       | 38       | 40       |
| 10" Dia.          | Total Pressure     | .016   | .028   | .043    | .062    | .085     | .111     | .140     | .173     | .266     | .340     | .443     |
|                   | Airflow, cfm       | 165    | 220    | 270     | 330     | 380      | 435      | 490      | 545      | 655      | 765      | 870      |
|                   | Throw              | 3-5-9  | 4-5-10 | 5-7-11  | 6-8-12  | 6-9-13   | 7-10-14  | 8-10-16  | 8-11-18  | 9-11-19  | 10-12-20 | 12-16-22 |
|                   | NC                 | —      | —      | —       | 16      | 22       | 27       | 31       | 34       | 39       | 44       | 48       |
| 12" Dia.          | Total Pressure     | .016   | .028   | .043    | .063    | .086     | .113     | .142     | .176     | .280     | .346     | .451     |
|                   | Airflow, cfm       | 235    | 315    | 390     | 470     | 550      | 630      | 705      | 785      | 990      | 1100     | 1255     |
|                   | Throw              | 4-6-10 | 5-7-12 | 6-8-14  | 7-10-16 | 8-11-18  | 9-12-18  | 10-13-20 | 11-14-21 | 13-17-24 | 15-20-27 | 17-23-30 |
|                   | NC                 | —      | —      | —       | 20      | 25       | 30       | 34       | 37       | 43       | 48       | 53       |
| 14" Dia.          | Total Pressure     | .016   | .028   | .043    | .064    | .088     | .116     | .145     | .180     | .299     | .354     | .461     |
|                   | Airflow, cfm       | 320    | 425    | 530     | 635     | 745      | 850      | 955      | 1060     | 1270     | 1490     | 1695     |
|                   | Throw              | 5-7-12 | 7-9-15 | 8-10-17 | 9-12-18 | 10-14-21 | 12-16-22 | 13-17-24 | 15-21-27 | 17-24-31 | 19-28-35 | 21-31-40 |
|                   | NC                 | —      | 17     | 24      | 30      | 34       | 38       | 41       | 44       | 50       | 54       | 57       |

#### Performance Notes:

1. All pressures are in inches w.g.. To obtain static pressure, subtract the velocity pressure from the total pressure.
2. Throws are given at 150, 100 and 50 fpm terminal velocities, under isothermal conditions.

3. NC (Noise Criteria) values are based on 10 dB room absorption, re 10<sup>-12</sup> watts. Dash (-) in spaces indicates an NC level of less 15.
4. Data derived from tests conducted in accordance with ANSI/ASHRAE Standard 70 – 1991.

#### Balancing:

It is recommended that a commercially available 'Flow Hood' is used for field balancing. The airflow meter directly reads average flow rate with great accuracy at all volumes. It is a much faster and more accurate alternative to time consuming multiple velocity readings, eliminating the use of Ak factors and the calculations required to convert the average velocity into airflow.

| Neck Size Diameter in Inches | Nominal Overall Face Size | Ak Factor |
|------------------------------|---------------------------|-----------|
| 6                            | 24 x 24                   | 0.181     |
| 8                            | 24 x 24                   | 0.264     |
| 10                           | 24 x 24                   | 0.330     |
| 12                           | 24 x 24                   | 0.458     |
| 14                           | 24 x 24                   | 0.521     |

## ARCHITECTURAL CEILING DIFFUSERS

- HIGH PERFORMANCE
- SQUARE FACE
- ROUND NECK

### Models:

**UNI Steel**

**AUNI Aluminum**



Model UNI

The **Nailor Model Series 'UNI' Square Ceiling Air Diffuser** has been specially designed to provide both the unobtrusive appearance required for architectural excellence and the 360° diffusion pattern at minimum NC levels required for high engineering performance. The stamped one-piece outer cone eliminates mitered corners and the die-formed curves provide consistent quality and performance.

The **UNI** diffuser compliments any decor, blending beautifully with virtually any architectural style or requirement. The **UNI** diffuser provides stable diffusion and mixing patterns under constant and changing load conditions and is particularly suitable for variable air volume systems.

The **UNI** diffusers are available to suit many situations including surface mount, T-Bar lay-in and panel applications. Standard finish is a high quality baked enamel for long life and easy cleaning. A variety of neck sizes are available to suit your system design. The collar is a full 1 1/4" (32) in height for easy, secure connection.

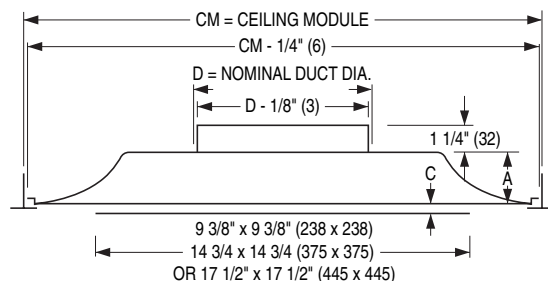
### FEATURES:

- Engineered air diffusion pattern.
- Steel stamped shapes for uniformity.
- High neck collars for solid connection.
- Removable inner core.
- Face panel is virtually flush with the ceiling line.
- Face panel is double-skinned for rigidity and strength and features a hemmed edge for a professional finish.
- Unique neck bracketry is virtually invisible from most angles.
- An optional radial opposed blade damper with an operating arm to adjust the damper without removing the core is available.

**Material:** Heavy gauge, corrosion-resistant steel or aluminum with miscellaneous steel components.

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

### Type L Lay-in, T-Bar Frame



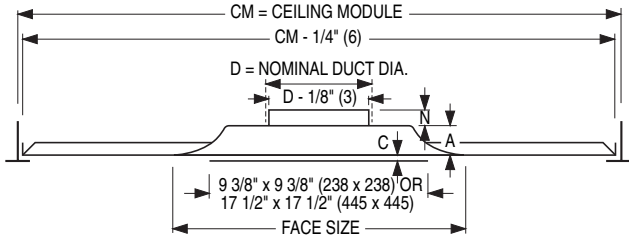
### Dimensional Data

| CM               |                | Imperial Units (inches) |        |        |      |        | Metric Units (mm)            |    |     |    |     |
|------------------|----------------|-------------------------|--------|--------|------|--------|------------------------------|----|-----|----|-----|
| Imperial Modules | Metric Modules | Duct Size D             | A      | B      | C    | F      | Duct Size D                  | A  | B   | C  | F   |
| 24 x 24          | 600 x 600      | 6, 8, 10, 12, 14, 15    | 2 5/16 | 22     | 3/8  | 24 3/4 | 152, 203, 254, 305, 356, 381 | 59 | 519 | 10 | 629 |
| 20 x 20          | 500 x 500      | 6, 8, 10,               | 2 1/4  | 18 1/2 | 7/16 | N/A    | 152, 203, 254                | 57 | 470 | 11 | N/A |
| 12 x 12          | 300 x 300      | 5, 6, 7, 8              | 1      | 11     | 5/8  | 13     | 127, 152, 178, 203           | 25 | 279 | 16 | 330 |

The 20 x 20 (500 x 500) module is only available with the Type L frame.

## Dimensional Data and Frame Types Models UNI and AUNI

### Type PL Panel Mounted Lay-in T-Bar



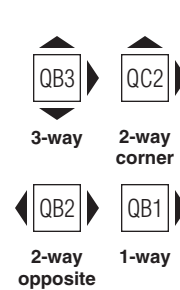
| CM               |                | Imperial Units (inches) |                      |       |        |     | Metric Units (mm) |                              |    |    |    |
|------------------|----------------|-------------------------|----------------------|-------|--------|-----|-------------------|------------------------------|----|----|----|
| Imperial Modules | Metric Modules | Face Size               | Duct Size D          | N     | A      | C   | Face Size         | Duct Size D                  | N  | A  | C  |
| 24 x 24          | 600 x 600      | 12                      | 4 ★                  | 3 1/4 | 1      | 5/8 | 300 x 300         | 102 ★                        | 83 | 25 | 16 |
|                  |                |                         | 5, 6, 7, 8           | 1 1/4 |        |     |                   | 127, 152, 178, 203           | 32 |    |    |
| 24 x 12          | 600 x 300      | 12                      | 4 ★                  | 3 1/4 | 1      | 5/8 | 300 x 300         | 102 ★                        | 83 | 25 | 16 |
|                  |                |                         | 5, 6, 7, 8           | 1 1/4 |        |     |                   | 127, 152, 178, 203           | 32 |    |    |
| 20 x 20          | 500 x 500      | 24                      | 4 ★                  | 3 1/4 | 1 1/4  | 3/8 | 600 x 600         | 102 ★                        | 83 | 59 | 10 |
|                  |                |                         | 5, 6, 7, 8           | 1 1/4 |        |     |                   | 127, 152, 178, 203           | 32 |    |    |
| 48 x 24          | 1200 x 600     | 24                      | 6, 8, 10, 12, 14, 15 | 1 1/4 | 2 5/16 | 3/8 | 600 x 600         | 152, 203, 254, 305, 356, 381 | 32 | 59 | 10 |
|                  |                |                         |                      |       |        |     |                   |                              |    |    |    |

★ Supplied with a reducer.

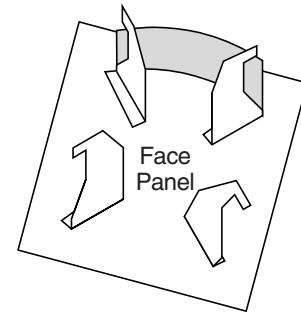
### Directional Blow Option • QB Quadrant Blanks

- Converts **UNI** from standard 4-way (360°) blow pattern to 1, 2 or 3-way.
- Supplied factory installed when specified or available loose for simple field installation.
- Installs between outer cone and face panel and locates between neck bracketry.
- Positive full depth blank-off follows neck circumference.

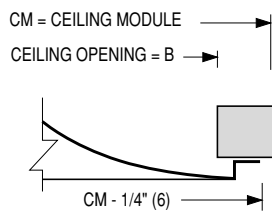
### Blow Patterns



### QB Illustration

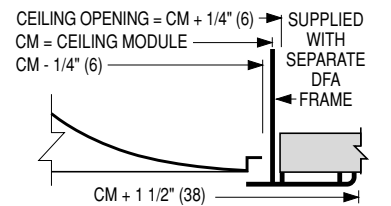


### Type L Surface Mount



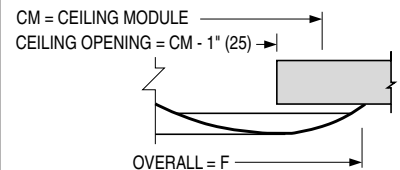
Hard duct connection recommended.

### Type L Surface Mount with DFA



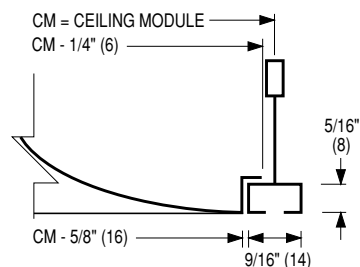
Drywall/Plaster Frame. Recommended for flexible duct and ceiling access.

### Type S Surface Mount

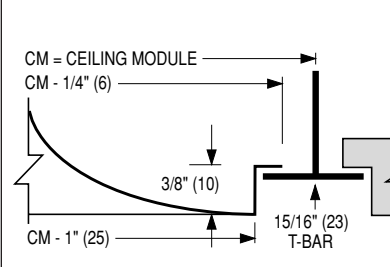


Aluminum model (AUNI) is only available in 12 x 12 (300 x 300) module. Hard duct connection recommended.

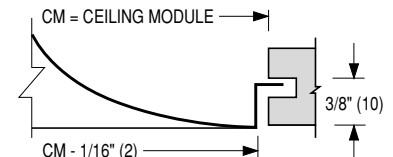
### Type F Fineline®



### Type TL Tegular Lay-in

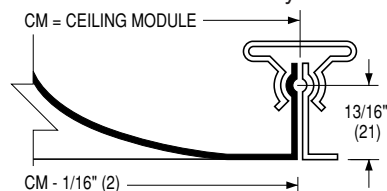


### Type SP Spline



Steel models only. For one directional exposed T-Bar or fully concealed grid. One spline on two opposite sides, steel lift bracket on others.

### Type M Metal Pan (Snap-in) Steel models only

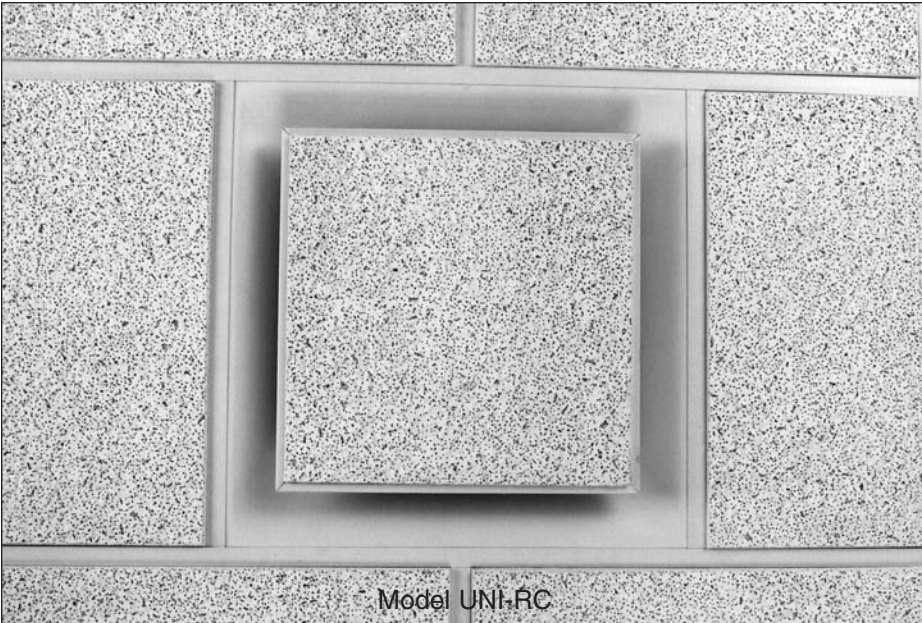


Fineline® is a registered trademark of USG Interiors Inc.



## ARCHITECTURAL OPTION

**Model:**  
**UNI with optional**  
**RC (retaining channel)**



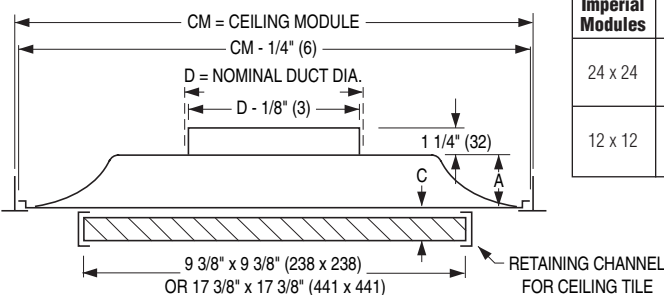
Model UNI-RC

**D**

**CEILING DIFFUSERS**

For a unique 'custom' appearance, specify the **UNI** diffuser with the optional RC Retaining Channel. The retaining channel is shipped separately for field installation of a ceiling tile. Simply cut the tile to size and install it directly on the face panel assembly. The RC Retaining Channel is supplied in two pieces with pop rivets for field assembly as standard. The result is a high performance diffuser that blends harmoniously with the specified architectural ceiling design. Tiles (supplied by others) can also be factory installed at additional cost.

### Type L Lay-in T-Bar Frame \*



### Dimensional Data

| CM               |                | Imperial Units (inches) |        |    |       |        | Metric Units (mm)            |    |     |    |     |
|------------------|----------------|-------------------------|--------|----|-------|--------|------------------------------|----|-----|----|-----|
| Imperial Modules | Metric Modules | Duct Size D             | A      | B  | C     | F      | Duct Size D                  | A  | B   | C  | F   |
| 24 x 24          | 600 x 600      | 6, 8, 10, 12, 14, 15    | 2 5/16 | 22 | 1 1/8 | 24 3/4 | 152, 203, 254, 305, 356, 381 | 59 | 519 | 29 | 629 |
| 12 x 12          | 300 x 300      | 5, 6, 7, 8              | 1      | 11 | 1 3/8 | 13     | 127, 152, 178, 203           | 25 | 279 | 35 | 330 |

\* Refer to previous page for other frame types and installations.

## HOW TO SPECIFY OR TO ORDER

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

### Square Architectural Ceiling Diffusers – Model Series UNI

UNI - 08 - 24 x 24 - L - AW - -

#### MODEL

- Steel UNI
- Aluminum AUNI

#### NECK SIZE (inches)

- 04, 05, 06, 07, 08,
- 10, 12, 14, 15

#### CEILING MODULE SIZE

| Imperial (inches)   | Metric (mm)          |
|---------------------|----------------------|
| - 12 x 12           | 300 x 300            |
| - 20 x 20           | 500 x 500            |
| - 24 x 12 (PL only) | 600 x 300 (PL only)  |
| - 24 x 24           | 600 x 600            |
| - 30 x 30 (PL only) | 750 x 750 (PL only)  |
| - 48 x 24 (PL only) | 1200 x 600 (PL only) |

#### FRAME STYLE

- T-Bar Lay-in L
- Surface Mount S
- Panel T-Bar Lay-in PL
- Spline SP
- Metal Pan Snap-In M
- Finline® F
- Tegular TL

#### ACCESSORIES

- None (default) —
- External Foil Back Insulation EX
- Earthquake Tabs EQT
- Quadrant Blanks
  - 3-Way Blow QB3
  - 2-Way Opposite Blow QB2
  - 2-Way Corner Blow QC2
  - 1-Way Blow QB1
- Retaining Channel RC
- Tile cut and fit CF

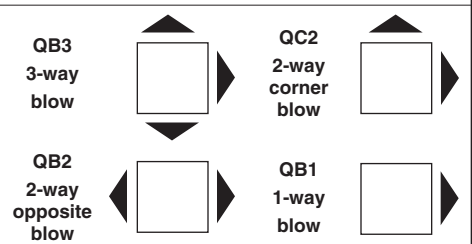
#### AIR BALANCING DEVICES

- Radial Sliding Blade Damper 4250
- Radial Opposed Blade Damper 4275
- Radial OBD with Operating Arm 4275-OA
- Butterfly Damper 4675
- Equalizing Grid EGR
- Damper/Equalizing Grid DEGR

#### FINISH

- Appliance White (default) AW
- Aluminum AL
- Special Custom Color SP

#### BLOW PATTERNS WITH OPTIONAL FACTORY INSTALLED QUADRANT BLANKS.



#### Notes:

- Face sizes 12" x 12" (300 x 300) and 24" x 12" (600 x 300) are available in a 4" (102) through 8" (203) neck, 20" x 20" (500 x 500) face size is available in a 6", 8" or 10" (152, 203 or 254) neck and 24" x 24" (600 x 600) face size is available in a 6" (152) through 15" (381) neck.
- Face size 20" x 20" (500 x 500) is available only in frame style L.
- Consult text as to limitations of material, module size and frame style combinations.

#### SUGGESTED SPECIFICATION:

##### UNI – Steel Construction

Furnish and install **Nailor Model UNI Square Architectural Ceiling Diffusers** of the sizes and capacities as shown on the plans and air distribution schedules. The diffuser shall have a corrosion-resistant steel, stamped outer cone. The inner core shall have a plaque style face. The face shall be double skinned with a hemmed edge. The inner core assembly is to be removable using a spring clip arrangement that permits quick, easy installation and removal. The finish shall be AW Appliance White baked enamel (optional finishes are available).

The manufacturer shall provide published performance data for the diffuser, which shall be tested in accordance with ANSI/ASHRAE Standard 70 – 1991.

##### AUNI – Aluminum Construction

Furnish and install **Nailor Model AUNI Square Architectural Ceiling Diffusers** of the sizes and capacities as shown on the plans and air distribution schedules. The diffuser shall have a heavy gauge aluminum, stamped outer cone. The inner core shall have a plaque style face. The face shall be double skinned with a hemmed edge. The inner core assembly is to be removable using a spring clip arrangement that permits quick, easy installation and removal. The finish shall be AW Appliance White baked enamel (optional finishes are available).

The manufacturer shall provide published performance data for the diffuser, which shall be tested in accordance with ANSI/ASHRAE Standard 70 – 1991.

## Performance Data

### Models UNI and AUNI • 12 x 12 (300 x 300) Face Size • 4-way Blow (360° Pattern)

| Nominal Neck Size | Neck Velocity, FPM | 400   | 500   | 600    | 700    | 800    | 900    | 1000    | 1200    | 1400    | 1600    |
|-------------------|--------------------|-------|-------|--------|--------|--------|--------|---------|---------|---------|---------|
|                   | VP                 | .010  | .016  | .023   | .031   | .040   | .051   | .063    | .090    | .122    | .160    |
| 4" Dia.           | TP                 | .023  | .036  | .051   | .070   | .091   | .115   | .142    | .205    | .279    | .364    |
|                   | Airflow, CFM       | 35    | 45    | 50     | 60     | 70     | 80     | 85      | 105     | 120     | 140     |
|                   | T                  | 1-2-3 | 1-2-4 | 2-2-5  | 2-3-6  | 2-3-6  | 2-4-7  | 3-4-7   | 3-5-7   | 4-6-7   | 5-7-8   |
|                   | NC                 | —     | —     | —      | 13     | 17     | 21     | 24      | 30      | 35      | 40      |
| 5" Dia.           | TP                 | .027  | .043  | .061   | .083   | .109   | .138   | .170    | .245    | .334    | .436    |
|                   | Airflow, CFM       | 55    | 70    | 80     | 95     | 110    | 125    | 135     | 165     | 190     | 220     |
|                   | T                  | 2-2-4 | 2-3-5 | 2-3-6  | 3-4-7  | 3-5-8  | 4-6-9  | 4-7-9   | 4-8-10  | 5-8-10  | 6-9-11  |
|                   | NC                 | —     | —     | —      | 14     | 18     | 22     | 25      | 31      | 36      | 41      |
| 6" Dia.           | TP                 | .033  | .052  | .074   | .101   | .131   | .166   | .205    | .295    | .402    | .525    |
|                   | Airflow, CFM       | 80    | 100   | 120    | 140    | 160    | 180    | 200     | 235     | 275     | 315     |
|                   | T                  | 2-3-5 | 3-4-6 | 3-5-7  | 4-5-8  | 5-6-9  | 5-7-10 | 5-8-10  | 6-9-11  | 7-10-12 | 7-10-13 |
|                   | NC                 | —     | —     | 10     | 15     | 19     | 23     | 26      | 32      | 37      | 42      |
| 7" Dia.           | TP                 | .056  | .089  | .127   | .172   | .225   | .285   | .352    | .506    | .689    | .900    |
|                   | Airflow, CFM       | 105   | 135   | 160    | 190    | 215    | 240    | 265     | 320     | 375     | 430     |
|                   | T                  | 3-4-6 | 3-5-7 | 4-6-9  | 4-7-10 | 5-8-10 | 6-8-11 | 6-9-12  | 7-10-13 | 8-11-14 | 9-12-15 |
|                   | NC                 | —     | —     | 11     | 16     | 20     | 24     | 27      | 33      | 38      | 43      |
| 8" Dia.           | TP                 | .067  | .105  | .160   | .205   | .268   | .340   | .418    | .600    | .821    | 1.070   |
|                   | Airflow, CFM       | 140   | 175   | 210    | 245    | 280    | 315    | 350     | 420     | 490     | 560     |
|                   | T                  | 3-5-7 | 4-6-9 | 5-7-10 | 6-8-11 | 6-9-12 | 7-9-13 | 7-10-14 | 8-11-15 | 9-12-16 | 9-12-17 |
|                   | NC                 | —     | —     | 12     | 17     | 21     | 25     | 28      | 34      | 39      | 44      |

### Models UNI and AUNI • 20 x 20 (500 x 500) Face Size • 4-way Blow (360° Pattern)

| Nominal Neck Size | Neck Velocity, FPM | 400   | 500   | 600    | 700    | 800    | 900    | 1000   | 1200    | 1400     | 1600     |
|-------------------|--------------------|-------|-------|--------|--------|--------|--------|--------|---------|----------|----------|
|                   | VP                 | .010  | .016  | .023   | .031   | .040   | .051   | .063   | .090    | .122     | .160     |
| 6" Dia.           | TP                 | .014  | .021  | .031   | .042   | .055   | .070   | .086   | .124    | .168     | .220     |
|                   | Airflow, CFM       | 80    | 100   | 120    | 140    | 160    | 180    | 200    | 235     | 275      | 315      |
|                   | T                  | 1-3-5 | 2-3-4 | 2-4-5  | 2-4-6  | 2-5-6  | 3-4-7  | 3-5-8  | 4-6-9   | 4-6-10   | 5-6-10   |
|                   | NC                 | —     | —     | —      | —      | 14     | 18     | 22     | 28      | 34       | 39       |
| 8" Dia.           | TP                 | .019  | .029  | .042   | .057   | .074   | .094   | .116   | .167    | .227     | .296     |
|                   | Airflow, CFM       | 140   | 175   | 210    | 245    | 280    | 315    | 350    | 420     | 490      | 560      |
|                   | T                  | 2-2-4 | 2-3-5 | 2-3-7  | 3-4-8  | 3-5-9  | 4-6-9  | 5-7-10 | 6-8-11  | 7-9-12   | 8-10-13  |
|                   | NC                 | —     | —     | —      | 13     | 18     | 22     | 26     | 32      | 38       | 43       |
| 10" Dia.          | TP                 | .031  | .049  | .071   | .096   | .126   | .159   | .196   | .283    | .385     | .503     |
|                   | Airflow, CFM       | 220   | 270   | 330    | 380    | 435    | 490    | 545    | 655     | 765      | 875      |
|                   | T                  | 3-4-7 | 3-5-9 | 3-5-10 | 4-6-12 | 5-7-13 | 6-8-12 | 7-9-14 | 8-11-15 | 10-12-17 | 11-13-18 |
|                   | NC                 | —     | —     | 10     | 16     | 21     | 25     | 29     | 35      | 41       | 46       |

For performance notes, see next page.

## Performance Data

### Models UNI and AUNI • 24 x 24 (600 x 600) Face Size • 4-Way Blow (360° Pattern)

| Nominal Neck Size | Neck Velocity, FPM | 400    | 500     | 600     | 700      | 800      | 900      | 1000     | 1200     | 1400     | 1600     |
|-------------------|--------------------|--------|---------|---------|----------|----------|----------|----------|----------|----------|----------|
|                   | VP                 | .010   | .016    | .023    | .031     | .040     | .051     | .063     | .090     | .122     | .160     |
| 6" Dia.           | TP                 | .010   | .020    | .030    | .041     | .053     | .068     | .084     | .120     | .164     | .214     |
|                   | Airflow, CFM       | 80     | 100     | 120     | 140      | 160      | 180      | 200      | 235      | 275      | 315      |
|                   | T                  | 1-3-4  | 1-3-4   | 2-4-5   | 2-4-6    | 2-5-6    | 3-4-7    | 3-5-8    | 4-6-9    | 4-6-10   | 5-6-10   |
|                   | NC                 | —      | —       | —       | —        | 14       | 18       | 22       | 28       | 34       | 39       |
| 8" Dia.           | TP                 | .018   | .028    | .037    | .056     | .072     | .092     | .112     | .162     | .220     | .288     |
|                   | Airflow, CFM       | 140    | 175     | 210     | 245      | 280      | 315      | 350      | 420      | 490      | 560      |
|                   | T                  | 2-2-4  | 2-3-5   | 2-3-7   | 3-4-8    | 3-5-9    | 4-6-9    | 5-7-10   | 6-8-11   | 7-9-12   | 8-10-13  |
|                   | NC                 | —      | —       | —       | 13       | 18       | 22       | 26       | 32       | 38       | 43       |
| 10" Dia.          | TP                 | .031   | .048    | .069    | .093     | .122     | .155     | .191     | .275     | .375     | .489     |
|                   | Airflow, CFM       | 220    | 270     | 330     | 380      | 435      | 490      | 545      | 655      | 765      | 870      |
|                   | T                  | 3-4-7  | 3-5-9   | 3-5-10  | 4-6-12   | 5-7-13   | 5-8-12   | 7-9-14   | 8-11-15  | 10-12-17 | 11-13-18 |
|                   | NC                 | —      | —       | 10      | 16       | 21       | 25       | 29       | 35       | 41       | 46       |
| 12" Dia.          | TP                 | .040   | .063    | .090    | .123     | .161     | .203     | .251     | .361     | .492     | .643     |
|                   | Airflow, CFM       | 315    | 390     | 470     | 550      | 630      | 705      | 785      | 940      | 1100     | 1255     |
|                   | T                  | 4-5-10 | 4-7-13  | 5-8-14  | 7-9-16   | 8-11-17  | 8-12-17  | 10-14-19 | 11-15-20 | 14-17-23 | 16-18-25 |
|                   | NC                 | —      | —       | 13      | 19       | 24       | 28       | 32       | 38       | 44       | 49       |
| 14" Dia.          | TP                 | .054   | .083    | .120    | .163     | .214     | .270     | .334     | .481     | .655     | .855     |
|                   | Airflow, CFM       | 425    | 530     | 635     | 745      | 850      | 955      | 1060     | 1270     | 1490     | 1695     |
|                   | T                  | 5-7-14 | 6-9-16  | 7-11-18 | 10-13-20 | 11-15-23 | 11-17-23 | 14-19-26 | 16-21-28 | 19-22-31 | 20-24-33 |
|                   | NC                 | —      | —       | 15      | 21       | 26       | 30       | 34       | 40       | 46       | 51       |
| 15" Dia.          | TP                 | .065   | .102    | .147    | .200     | .260     | .330     | .408     | .588     | .799     | 1.044    |
|                   | Airflow, CFM       | 490    | 615     | 735     | 860      | 985      | 1110     | 1230     | 1470     | 1720     | 1970     |
|                   | T                  | 6-9-17 | 7-11-19 | 9-13-21 | 11-16-24 | 14-19-26 | 14-20-27 | 16-21-30 | 19-24-33 | 23-26-35 | 23-27-38 |
|                   | NC                 | —      | —       | 16      | 22       | 27       | 31       | 35       | 41       | 47       | 52       |

**CFM** - cubic feet per minute

**FPM** - feet per minute velocity

**TP** - total pressure - inches w.g.

**VP** - velocity pressure - inches w.g.

**T** - throw in feet

**NC** - Noise Criteria (values) based on 10 dB room absorption, re 10<sup>-12</sup> watts.

#### Performance Notes:

1. Horizontal throws are given at 150, 100 and 50 fpm terminal velocities under isothermal conditions.
2. Data derived from tests conducted in accordance with ANSI/ASHRAE Standard 70 – 1991.

| Neck Size Diameter in Inches | Nominal Overall Face Size | Ak Factor |
|------------------------------|---------------------------|-----------|
| 6                            | 12 x 12                   | 0.105     |
| 8                            | 12 x 12                   | 0.129     |
| 6                            | 24 x 24                   | 0.206     |
| 8                            | 24 x 24                   | 0.248     |
| 10                           | 24 x 24                   | 0.315     |
| 12                           | 24 x 24                   | 0.384     |
| 14                           | 24 x 24                   | 0.437     |
| 15                           | 24 x 24                   | 0.485     |

## Performance Data

### Models UNI and AUNI • 12 x 12 (300 x 300) Face Size • 3-Way Blow

| Nominal Neck Size | Neck Velocity, FPM | 300   | 400    | 500    | 600    | 700     | 800     | 900     | 1000    | 1200    | 1400     |
|-------------------|--------------------|-------|--------|--------|--------|---------|---------|---------|---------|---------|----------|
|                   | VP                 | .006  | .010   | .016   | .023   | .031    | .040    | .051    | .063    | .090    | .122     |
| 6" Dia.           | TP                 | .035  | .061   | .096   | .138   | .188    | .245    | .311    | .383    | .529    | .725     |
|                   | Airflow, CFM       | 60    | 80     | 100    | 120    | 140     | 160     | 180     | 200     | 235     | 275      |
|                   | T                  | 2-4-6 | 3-6-9  | 5-7-9  | 5-8-10 | 6-9-12  | 7-9-13  | 7-10-14 | 8-11-15 | 8-12-16 | 9-13-17  |
|                   | NC                 | —     | —      | 12     | 18     | 23      | 27      | 31      | 34      | 40      | 45       |
| 8" Dia.           | TP                 | .076  | .135   | .211   | .304   | .414    | .540    | .684    | .844    | 1.215   | 1.654    |
|                   | Airflow, CFM       | 105   | 140    | 175    | 210    | 245     | 280     | 315     | 350     | 420     | 490      |
|                   | T                  | 3-5-7 | 5-7-10 | 5-8-11 | 6-9-12 | 7-10-13 | 7-10-14 | 8-11-15 | 9-12-16 | 9-12-17 | 10-13-18 |
|                   | NC                 | —     | —      | 14     | 20     | 25      | 29      | 33      | 36      | 42      | 47       |

### Models UNI and AUNI • 24 x 24 (600 x 600) Face Size • 3-Way Blow

| Nominal Neck Size | Neck Velocity, FPM | 300    | 400     | 500      | 600      | 700      | 800      | 900      | 1000     | 1200     | 1400     |
|-------------------|--------------------|--------|---------|----------|----------|----------|----------|----------|----------|----------|----------|
|                   | VP                 | .006   | .010    | .016     | .023     | .031     | .040     | .051     | .063     | .090     | .122     |
| 6" Dia.           | TP                 | .010   | .018    | .028     | .041     | .055     | .072     | .091     | .113     | .155     | .213     |
|                   | Airflow, CFM       | 60     | 80      | 100      | 120      | 140      | 160      | 180      | 200      | 235      | 275      |
|                   | T                  | 1-3-4  | 1-3-4   | 2-4-5    | 2-5-6    | 3-4-7    | 4-5-8    | 4-6-9    | 4-6-10   | 5-6-10   | 6-7-11   |
|                   | NC                 | —      | —       | —        | 11       | 17       | 22       | 26       | 30       | 36       | 42       |
| 8" Dia.           | TP                 | .016   | .028    | .043     | .062     | .085     | .111     | .140     | .173     | .249     | .339     |
|                   | Airflow, CFM       | 105    | 140     | 175      | 210      | 245      | 280      | 315      | 350      | 420      | 490      |
|                   | T                  | 2-2-4  | 2-3-6   | 3-4-8    | 3-5-8    | 4-6-9    | 5-7-10   | 6-8-11   | 7-9-12   | 8-10-13  | 9-11-14  |
|                   | NC                 | —      | —       | —        | 15       | 21       | 26       | 30       | 34       | 40       | 46       |
| 10" Dia.          | TP                 | .032   | .057    | .085     | .127     | .169     | .221     | .281     | .347     | .501     | .684     |
|                   | Airflow, CFM       | 165    | 220     | 270      | 330      | 380      | 435      | 490      | 545      | 655      | 765      |
|                   | T                  | 3-4-7  | 3-5-9   | 4-6-10   | 5-7-11   | 5-8-12   | 7-10-13  | 8-11-15  | 9-12-16  | 11-13-18 | 12-14-19 |
|                   | NC                 | —      | —       | —        | 18       | 24       | 29       | 33       | 37       | 43       | 49       |
| 12" Dia.          | TP                 | .043   | .077    | .118     | .171     | .235     | .308     | .386     | .478     | .686     | .939     |
|                   | Airflow, CFM       | 235    | 315     | 390      | 470      | 550      | 630      | 705      | 785      | 940      | 1100     |
|                   | T                  | 4-5-10 | 5-7-13  | 6-9-15   | 8-11-17  | 9-13-18  | 10-14-19 | 11-15-20 | 13-16-22 | 16-18-25 | 18-21-28 |
|                   | NC                 | —      | —       | 12       | 21       | 27       | 32       | 36       | 40       | 46       | 52       |
| 14" Dia.          | TP                 | .060   | .106    | .165     | .237     | .326     | .425     | .536     | .661     | .949     | 1.306    |
|                   | Airflow, CFM       | 320    | 425     | 530      | 635      | 745      | 850      | 955      | 1060     | 1270     | 1490     |
|                   | T                  | 5-7-14 | 6-9-16  | 9-12-19  | 11-15-23 | 12-18-24 | 14-19-26 | 16-21-28 | 19-21-30 | 20-24-33 | 21-26-35 |
|                   | NC                 | —      | —       | 14       | 23       | 29       | 34       | 38       | 42       | 48       | 54       |
| 15" Dia.          | TP                 | .074   | .130    | .205     | .293     | .401     | .526     | .668     | .820     | 1.172    | 1.604    |
|                   | Airflow, CFM       | 370    | 490     | 615      | 735      | 860      | 985      | 1110     | 1230     | 1470     | 1720     |
|                   | T                  | 6-9-17 | 8-12-20 | 11-16-24 | 14-19-26 | 14-20-27 | 17-22-31 | 19-24-33 | 22-25-35 | 23-27-38 | 24-29-40 |
|                   | NC                 | —      | —       | 15       | 24       | 30       | 35       | 39       | 43       | 49       | 55       |

**CFM** - cubic feet per minute

**FPM** - feet per minute velocity

**TP** - total pressure - inches w.g.

**VP** - velocity pressure - inches w.g.

**T** - throw in feet

**NC** - Noise Criteria (values) based on 10 dB room absorption, re 10<sup>-12</sup> watts.

#### Performance Notes:

1. Horizontal throws are given at 150, 100 and 50 fpm terminal velocities under isothermal conditions.

2. Data derived from tests conducted in accordance with ANSI/ASHRAE Standard 70 – 1991.

| Neck Size Diameter in Inches | Nominal Overall Face Size | Ak Factor |
|------------------------------|---------------------------|-----------|
| 6                            | 12 x 12                   | 0.079     |
| 8                            | 12 x 12                   | 0.098     |
| 6                            | 24 x 24                   | 0.155     |
| 8                            | 24 x 24                   | 0.186     |
| 10                           | 24 x 24                   | 0.236     |
| 12                           | 24 x 24                   | 0.288     |
| 14                           | 24 x 24                   | 0.328     |
| 15                           | 24 x 24                   | 0.364     |

**D**

**CEILING DIFFUSERS**

## Performance Data

### Models UNI and AUNI • 12 x 12 (300 x 300) Face Size • 2-Way Blow

| Nominal Neck Size | Neck Velocity, FPM | 200   | 300    | 400    | 500     | 600     | 700     | 800     | 900      | 1000     | 1200     |
|-------------------|--------------------|-------|--------|--------|---------|---------|---------|---------|----------|----------|----------|
|                   | VP                 | .003  | .006   | .010   | .016    | .023    | .031    | .040    | .051     | .063     | .090     |
| 6" Dia.           | TP                 | .032  | .071   | .126   | .198    | .284    | .387    | .506    | .640     | .790     | 1.091    |
|                   | Airflow, CFM       | 40    | 60     | 80     | 100     | 120     | 140     | 160     | 180      | 200      | 235      |
|                   | T                  | 2-4-6 | 4-6-9  | 5-8-10 | 6-9-12  | 7-9-13  | 8-11-15 | 8-12-16 | 9-12-17  | 9-13-18  | 10-13-19 |
|                   | NC                 | —     | —      | 16     | 22      | 25      | 30      | 34      | 38       | 41       | 47       |
| 8" Dia.           | TP                 | .074  | .166   | .294   | .460    | .662    | .902    | 1.178   | 1.491    | 1.840    | 2.650    |
|                   | Airflow, CFM       | 70    | 105    | 140    | 175     | 210     | 245     | 280     | 315      | 350      | 420      |
|                   | T                  | 3-5-7 | 5-7-10 | 6-9-12 | 7-10-14 | 8-11-15 | 9-12-16 | 9-12-17 | 10-12-18 | 10-13-19 | 11-14-20 |
|                   | NC                 | —     | 11     | 18     | 24      | 27      | 32      | 36      | 40       | 43       | 49       |

### Models UNI and AUNI • 24 x 24 (600 x 600) Face Size • 2-Way Blow

| Nominal Neck Size | Neck Velocity, FPM | 200    | 300     | 400      | 500      | 600      | 700      | 800      | 900      | 1000     | 1200     |
|-------------------|--------------------|--------|---------|----------|----------|----------|----------|----------|----------|----------|----------|
|                   | VP                 | .003   | .006    | .010     | .016     | .023     | .031     | .040     | .051     | .063     | .090     |
| 6" Dia.           | TP                 | .007   | .016    | .028     | .043     | .063     | .085     | .111     | .141     | .174     | .240     |
|                   | Airflow, CFM       | 40     | 60      | 80       | 100      | 120      | 140      | 160      | 180      | 200      | 235      |
|                   | T                  | 1-3-4  | 2-4-5   | 2-5-6    | 3-4-7    | 4-6-9    | 4-6-10   | 5-6-10   | 6-7-11   | 6-8-12   | 7-9-13   |
|                   | NC                 | —      | —       | —        | 12       | 18       | 24       | 29       | 33       | 37       | 43       |
| 8" Dia.           | TP                 | .013   | .028    | .050     | .078     | .113     | .153     | .200     | .253     | .313     | .450     |
|                   | Airflow, CFM       | 70     | 105     | 140      | 175      | 210      | 245      | 280      | 315      | 350      | 420      |
|                   | T                  | 2-2-4  | 2-3-7   | 3-5-9    | 5-7-9    | 6-8-11   | 7-9-12   | 8-10-13  | 9-11-14  | 10-12-15 | 11-13-17 |
|                   | NC                 | —      | —       | —        | 16       | 22       | 28       | 33       | 37       | 41       | 47       |
| 10" Dia.          | TP                 | .029   | .065    | .115     | .174     | .259     | .344     | .451     | .572     | .707     | 1.022    |
|                   | Airflow, CFM       | 110    | 165     | 220      | 270      | 330      | 380      | 435      | 490      | 545      | 655      |
|                   | T                  | 3-4-7  | 3-5-10  | 5-7-13   | 7-9-14   | 8-11-15  | 10-12-17 | 11-13-18 | 11-14-18 | 12-15-19 | 13-17-22 |
|                   | NC                 | —      | —       | 12       | 19       | 25       | 31       | 36       | 41       | 44       | 50       |
| 12" Dia.          | TP                 | .042   | .090    | .162     | .248     | .360     | .493     | .647     | .811     | 1.005    | 1.441    |
|                   | Airflow, CFM       | 160    | 235     | 315      | 390      | 470      | 550      | 630      | 705      | 785      | 940      |
|                   | T                  | 4-5-10 | 5-8-14  | 8-11-17  | 10-14-19 | 11-15-20 | 14-17-23 | 16-18-25 | 16-19-25 | 18-21-27 | 19-22-29 |
|                   | NC                 | —      | —       | 15       | 22       | 28       | 34       | 39       | 43       | 47       | 53       |
| 14" Dia.          | TP                 | .056   | .130    | .229     | .356     | .511     | .704     | .916     | 1.156    | 1.425    | 2.045    |
|                   | Airflow, CFM       | 210    | 320     | 425      | 530      | 635      | 745      | 850      | 955      | 1060     | 1270     |
|                   | T                  | 5-7-14 | 7-11-18 | 11-15-23 | 14-19-26 | 16-21-28 | 19-22-31 | 20-24-33 | 20-26-33 | 23-28-36 | 25-30-38 |
|                   | NC                 | —      | —       | 17       | 24       | 30       | 36       | 41       | 45       | 49       | 55       |
| 15" Dia.          | TP                 | .071   | .161    | .283     | .446     | .637     | .872     | 1.144    | 1.453    | 1.784    | 2.548    |
|                   | Airflow, CFM       | 245    | 370     | 490      | 615      | 735      | 860      | 985      | 1110     | 1230     | 1470     |
|                   | T                  | 6-9-17 | 9-13-21 | 14-19-26 | 16-21-30 | 19-24-33 | 23-26-35 | 23-27-38 | 23-28-39 | 25-29-42 | 28-31-42 |
|                   | NC                 | —      | 10      | 18       | 25       | 31       | 37       | 42       | 46       | 50       | 56       |

**CFM** - cubic feet per minute

**FPM** - feet per minute velocity

**TP** - total pressure - inches w.g.

**VP** - velocity pressure - inches w.g.

**T** - throw in feet

**NC** - Noise Criteria (values) based on 10 dB room absorption, re 10<sup>-12</sup> watts.

#### Performance Notes:

1. Horizontal throws are given at 150, 100 and 50 fpm terminal velocities under isothermal conditions.

2. Data derived from tests conducted in accordance with ANSI/ASHRAE Standard 70 – 1991.

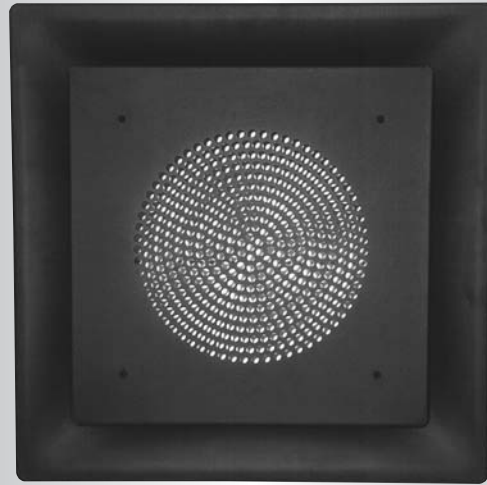
| Neck Size Diameter in Inches | Nominal Overall Face Size | Ak Factor |
|------------------------------|---------------------------|-----------|
| 6                            | 12 x 12                   | 0.053     |
| 8                            | 12 x 12                   | 0.065     |
| 6                            | 24 x 24                   | 0.103     |
| 8                            | 24 x 24                   | 0.124     |
| 10                           | 24 x 24                   | 0.158     |
| 12                           | 24 x 24                   | 0.192     |
| 14                           | 24 x 24                   | 0.219     |
| 15                           | 24 x 24                   | 0.243     |



## FIXED PERFORATED DOWNBLAST DIFFUSER

- HIGH PERFORMANCE
- THEATER APPLICATIONS
- SQUARE FACE
- ROUND NECK

**Model:**  
**UNI-PD Steel**



Model UNI-PD

The **Nailor Model 'UNI-PD' Fixed Perforated Downblast Square Ceiling Diffuser** has been specially designed to provide both the unobtrusive appearance for architectural excellence and the high airflow at minimum NC levels needed in theater, auditorium and other high ceiling applications. A circular perforated aperture in the diffuser face provides both a horizontal and vertical apportion of the airflow. The horizontal portion provides a tight 360° ceiling diffusion pattern and the vertical portion provides a true and long downward projection.

The **Model UNI-PD** heavy duty ceiling diffusers are designed for effective heating and spot cooling applications where conditions and floor to ceiling heights are variable.

Designed to integrate with the popular lay-in type ceiling grid system, this diffuser offers simple installation and a highly economical alternative to the more expensive round spun downblast diffuser design.

### FEATURES:

- Engineered air diffusion pattern.
- Steel stamped shapes for uniformity.
- High neck collars for solid connection.
- Fixed inner core.
- Suitable for theaters, auditoriums, factories, warehouses, convention

halls, coliseums, shopping malls and other high ceiling applications.

- 360° horizontal discharge pattern plus vertical projection.

- Heavy gauge face plate features a hemmed edge for a professional, clean finish. Perforated face has 3/8" (10) diameter holes on 5/8" (16)

staggered centers.

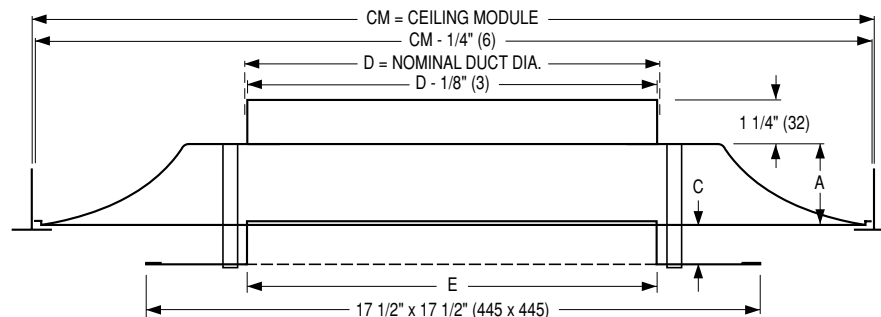
**Material:** Heavy gauge, corrosion-resistant steel.

**Finish:** BK Flat Black or AW Appliance White baked enamel. Other finishes are available.

### Type L Lay-in, T-Bar Frame \*

### Dimensional Data

| CM               |                | Imperial Units (inches) |        |        |    |        |        | Metric Units (mm) |     |    |     |    |     |
|------------------|----------------|-------------------------|--------|--------|----|--------|--------|-------------------|-----|----|-----|----|-----|
| Imperial Modules | Metric Modules | Duct Size D             | E      | A      | B  | C      | F      | Duct Size D       | E   | A  | B   | C  | F   |
| 24 x 24          | 600 x 600      | 12<br>14                | 11 1/4 | 2 5/16 | 22 | 1 3/16 | 24 3/4 | 305<br>356        | 286 | 59 | 519 | 30 | 629 |



\* Refer to page D98 for other frame types and installations.

## HOW TO SPECIFY OR TO ORDER

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

### Stamped Square Perforated Downblast Ceiling Diffuser – Model UNI-PD

UNI-PD - 12 - 24 x 24 - L - AW - -

#### MODEL

- Perforated Downblast UNI-PD

#### NECK SIZE (inches)

- 12, 14

#### CEILING MODULE SIZE

| Imperial (inches) | Metric (mm) |
|-------------------|-------------|
| - 24 x 24         | 600 x 600   |

#### FRAME STYLE

|                     |    |
|---------------------|----|
| - T-Bar Lay-in      | L  |
| - Surface Mount     | S  |
| - Spline            | SP |
| - Metal Pan Snap-In | M  |
| - Fineline®         | F  |

#### ACCESSORIES

|                                 |     |
|---------------------------------|-----|
| - None (default)                | —   |
| - External Foil Back Insulation | EX  |
| - Earthquake Tabs               | EQT |

#### AIR BALANCING DEVICES

|                               |      |
|-------------------------------|------|
| - Radial Sliding Blade Damper | 4250 |
| - Radial Opposed Blade Damper | 4275 |
| - Butterfly Damper            | 4675 |
| - Equalizing Grid             | EGR  |
| - Damper/Equalizing Grid      | DEGR |

#### FINISH

|                             |    |
|-----------------------------|----|
| - Appliance White (default) | AW |
| - Aluminum                  | AL |
| - Black                     | BK |
| - Special Custom Color      | SP |

D

CEILING DIFFUSERS

#### SUGGESTED SPECIFICATION:

##### UNI-PD – Perforated Downblast

Furnish and install **Nailor Model UNI-PD Square Perforated Downblast Ceiling Diffusers** of the sizes and capacities as shown on the plans and air distribution schedules. The diffuser shall be manufactured from corrosion-resistant steel and include a stamped one-piece construction outer cone with an inner core that has a square face plate that includes perforated holes in a spherical pattern. The perforations shall be 3/8" (10) diameter holes on 5/8" (16) centers. The finish shall be AW Appliance White baked enamel (optional finishes are available).

The manufacturer shall provide published performance data for the diffuser, which shall be tested in accordance with ANSI/ASHRAE Standard 70 – 1991.

## Performance Data

### Model UNI-PD • 24 x 24 (600 x 600) Face Size • 4-Way Blow (360° Pattern)

| Nominal Neck Size | Neck Velocity, FPM          | 400   | 500   | 600   | 700   | 800    | 900    | 1000   | 1200   | 1400    | 1600    |
|-------------------|-----------------------------|-------|-------|-------|-------|--------|--------|--------|--------|---------|---------|
|                   | VP                          | .010  | .016  | .023  | .031  | .040   | .051   | .063   | .090   | .122    | .160    |
| 12" Dia.          | TP                          | .018  | .028  | .041  | .055  | .072   | .092   | .113   | .163   | .221    | .289    |
|                   | Airflow, CFM                | 315   | 390   | 470   | 550   | 630    | 705    | 785    | 990    | 1100    | 1255    |
|                   | Horizontal Throws, Ft. H    | 2-3-4 | 3-5-7 | 3-5-8 | 4-6-8 | 5-6-10 | 5-7-11 | 6-8-10 | 6-9-12 | 8-11-13 | 9-12-16 |
|                   | Vertical Projections, Ft. V | 6-9   | 8-10  | 8-10  | 9-12  | 10-13  | 12-14  | 15-17  | 16-18  | 17-19   | 20-21   |
|                   | NC                          | —     | —     | —     | 13    | 18     | 22     | 26     | 34     | 38      | 42      |
| 14" Dia.          | TP                          | .023  | .036  | .051  | .070  | .092   | .116   | .143   | .206   | .280    | .366    |
|                   | Airflow, CFM                | 425   | 530   | 635   | 745   | 850    | 955    | 1060   | 1270   | 1490    | 1695    |
|                   | Horizontal Throws, Ft. H    | 2-4-5 | 3-5-6 | 4-5-7 | 5-6-7 | 5-6-8  | 6-7-8  | 6-7-9  | 7-9-11 | 8-10-13 | 9-11-14 |
|                   | Vertical Projections, Ft. V | 8-11  | 9-12  | 9-13  | 10-14 | 11-15  | 12-16  | 13-17  | 15-19  | 17-21   | 19-23   |
|                   | NC                          | —     | —     | —     | 15    | 20     | 24     | 28     | 36     | 40      | 44      |

**CFM** - cubic feet per minute

**FPM** - feet per minute velocity

**TP** - total pressure - inches w.g.

**VP** - velocity pressure - inches w.g.

**NC** - Noise Criteria (values) based on 10 dB room absorption, re 10<sup>-12</sup> watts.

#### Performance Notes:

1. Horizontal throws are given at a terminal velocity of 150, 100 and 50 fpm under isothermal conditions.

Horizontal throws for non-isothermal air are determined by applying the following correction factors to the cataloged values:

| ΔT          | Factor |
|-------------|--------|
| – 20°F clg. | x 1.20 |
| + 20°F htg. | x 0.85 |

Vertical projections are given at a terminal velocity of 50 fpm. Minimum projections are for a 20°F heating temperature differential and maximum projections are for a 20°F cooling differential.

2. Horizontal/Vertical apportion of the airflow:

12" neck approximately 60/40%.

14" neck approximately 65/35%.

3. Data derived from tests conducted in accordance with ANSI/ASHRAE Standard 70 – 1991.

## ADJUSTABLE DOWNBLAST DIFFUSER

- HIGH PERFORMANCE
- THEATER APPLICATIONS
- VERTICAL-TO-HORIZONTAL DISCHARGE PATTERNS
- SQUARE FACE
- ROUND NECK

Model:

UNI-AD Steel



Model UNI-AD

The **Nailor Model 'UNI-AD' Adjustable Downblast Square Ceiling Diffuser** has been specially designed to provide both the unobtrusive appearance for architectural excellence and the high airflow at minimum NC levels needed in theater, auditorium and other high ceiling applications. Radial vanes in the adjustable face damper permit air pattern adjustment from full horizontal to approximately 50/50 horizontal/vertical. Full adjustment requires only a half turn and is easily accomplished from the floor using the ring operator and a pole (by others).

The **Model UNI-AD** heavy duty ceiling diffusers are designed for effective heating and spot cooling applications where conditions and floor to ceiling heights are variable. At the full vertical setting, they provide a true and long downward projection. At full horizontal setting, they produce the tight ceiling pattern that is required for excellent VAV performance.

Designed to integrate with the popular lay-in type ceiling grid system, this diffuser offers simple installation and a highly economical alternative to the more expensive round spun downblast diffuser design.

### FEATURES:

- Engineered air diffusion pattern.
- Steel stamped shapes for uniformity.
- High neck collars for solid connection.
- Fixed inner core.
- Suitable for theaters, auditoriums, factories, warehouses, convention halls,

coliseums, shopping malls and other high ceiling applications.

- 360° horizontal discharge pattern.
- 0 – 50% airflow vertical projection capability.
- Ring operator can be adjusted using a pole.

- Heavy gauge face plate features a hemmed edge for a professional, clean finish.

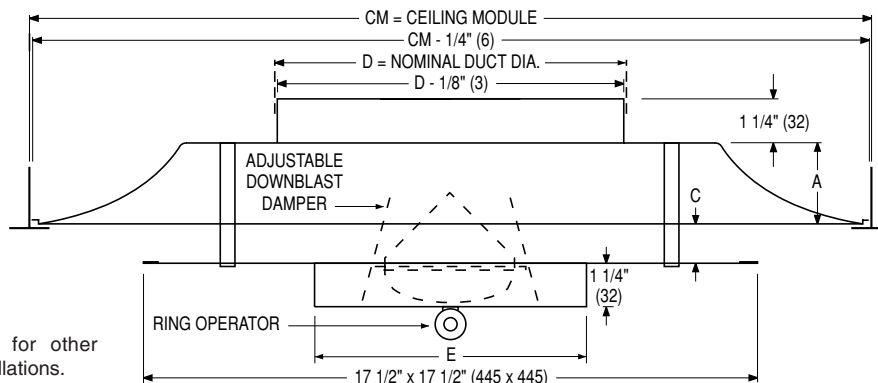
**Material:** Heavy gauge, corrosion-resistant steel.

**Finish:** BK Flat Black or AW Appliance White baked enamel. Other finishes are available.

### Type L Lay-in, T-Bar Frame \*

### Dimensional Data

| CM               |                | Imperial Units (inches) |         |        |    |        |        | Metric Units (mm) |            |    |     |    |     |
|------------------|----------------|-------------------------|---------|--------|----|--------|--------|-------------------|------------|----|-----|----|-----|
| Imperial Modules | Metric Modules | Duct Size D             | E       | A      | B  | C      | F      | Duct Size D       | E          | A  | B   | C  | F   |
| 24 x 24          | 600 x 600      | 12<br>14                | 8<br>10 | 2 5/16 | 22 | 1 3/16 | 24 3/4 | 305<br>356        | 203<br>254 | 59 | 519 | 30 | 629 |



\* Refer to page D98 for other frame types and installations.

## HOW TO SPECIFY OR TO ORDER

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

### Stamped Square Radial Vane Downblast Ceiling Diffuser – Model UNI-AD

**UNI-AD - 12 - 24 x 24 - L - AW - -**

#### MODEL

- Radial Vane Downblast      UNI-AD

#### NECK SIZE (inches)

- 12, 14

#### CEILING MODULE SIZE

**Imperial (inches)**      **Metric (mm)**  
 - 24 x 24      600 x 600

#### FRAME STYLE

- T-Bar Lay-in      L  
 - Surface Mount      S  
 - Spline      SP  
 - Metal Pan Snap-In      M  
 - Fineline®      F

#### ACCESSORIES

- None (default)      —  
 - External Foil Back Insulation      EX  
 - Earthquake Tabs      EQT

#### AIR BALANCING DEVICES

- Radial Sliding Blade Damper      4250  
 - Radial Opposed Blade Damper      4275  
 - Butterfly Damper      4675  
 - Equalizing Grid      EGR  
 - Damper/Equalizing Grid      DEGR

#### FINISH

- Appliance White (default)      AW  
 - Aluminum      AL  
 - Black      BK  
 - Special Custom Color      SP

**D**

**CEILING DIFFUSERS**

#### SUGGESTED SPECIFICATION:

##### UNI-AD – Adjustable Downblast

Furnish and install **Nailor Model UNI-AD Square Adjustable Downblast Ceiling Diffusers** of the sizes and capacities as shown on the plans and air distribution schedules. The diffuser shall be manufactured from corrosion-resistant steel and include a stamped one-piece construction outer cone with an inner core that has a square face plate and includes a round, easily adjustable radial vane in the center. The radial vane shall have a ring operator that allows for pole operation. The finish shall be AW Appliance White baked enamel (optional finishes are available).

The manufacturer shall provide published performance data for the diffuser, which shall be tested in accordance with ANSI/ASHRAE Standard 70 – 1991.

## Performance Data

### Model UNI-AD • 24 x 24 (600 x 600) Face Size • 4-Way Blow (360° Pattern)

| Nominal Neck Size | Neck Velocity, FPM          | 400  | 500  | 600  | 700  | 800  | 900  | 1000  | 1200  | 1400  | 1600  |
|-------------------|-----------------------------|------|------|------|------|------|------|-------|-------|-------|-------|
|                   | VP                          | .010 | .016 | .023 | .031 | .040 | .051 | .063  | .090  | .122  | .160  |
| 12" Dia.          | TP                          | .040 | .063 | .090 | .123 | .161 | .203 | .251  | .361  | .492  | .643  |
|                   | Airflow, CFM                | 315  | 390  | 470  | 550  | 630  | 705  | 785   | 940   | 1100  | 1255  |
|                   | Horizontal Throws, Ft. H    | 5    | 7    | 8    | 9    | 11   | 12   | 14    | 15    | 17    | 18    |
|                   | Vertical Projections, Ft. V | 3-13 | 4-16 | 5-20 | 7-22 | 8-28 | 8-32 | 9-34  | 10-36 | 15-59 | 19-62 |
|                   | NC                          | —    | —    | 13   | 16   | 21   | 25   | 29    | 35    | 41    | 46    |
| 14" Dia.          | TP                          | .054 | .083 | .120 | .163 | .214 | .270 | .334  | .481  | .655  | .855  |
|                   | Airflow, CFM                | 425  | 530  | 635  | 745  | 850  | 955  | 1060  | 1270  | 1490  | 1695  |
|                   | Horizontal Throws, Ft. H    | 7    | 9    | 11   | 13   | 15   | 17   | 19    | 21    | 22    | 24    |
|                   | Vertical Projections, Ft. V | 5-14 | 5-16 | 6-20 | 6-24 | 8-30 | 9-32 | 10-34 | 14-57 | 20-65 | 25-75 |
|                   | NC                          | —    | —    | 14   | 18   | 23   | 27   | 30    | 37    | 43    | 48    |

**CFM** - cubic feet per minute

**FPM** - feet per minute velocity

**TP** - total pressure - inches w.g.

**VP** - velocity pressure - inches w.g.

**NC** - Noise Criteria (values) based on 10 dB room absorption, re 10<sup>-12</sup> watts. NC values shown are for the horizontal discharge pattern. For downblast (damper open), deduct 5.

#### Performance Notes:

1. Horizontal throws are given at a terminal velocity of 50 fpm and a 20°F cooling temperature differential.

Vertical projections are given at a terminal velocity of 50 fpm. Minimum projections are for a 40°F heating temperature differential and maximum projections are for a 20°F cooling differential.

2. Data derived from tests conducted in accordance with ANSI/ASHRAE Standard 70 – 1991.

**D**

CEILING DIFFUSERS



## ARCHITECTURAL CEILING TILE SLOT DIFFUSER

- 'ICE TONG' PATTERN CONTROLLERS
- SQUARE FACE
- ROUND NECK (SUPPLY)

### Models:

#### Supply

**5075CTD** 3/4" (19) Slot

**5010CTD** 1" (25) Slot

#### Return

**5075RCTD** 3/4" (19) Slot

**5010RCTD** 1" (25) Slot



The **Nailor 5000CTD Series Diffusers** have been designed with the architect in mind to provide an unobtrusive high performance ceiling diffuser that incorporates a center ceiling tile (by others) that matches the surrounding ceiling system. This product is available in a nominal size of 24" x 24" (600 x 600) to suit both imperial and metric exposed grid suspended ceiling systems. The 4-way blow linear slot design utilizes the 'ice-tong' premium quality pattern controller, providing a tight horizontal air pattern, which can accommodate high turn down ratios and is therefore eminently suitable for variable air volume systems.

### FEATURES:

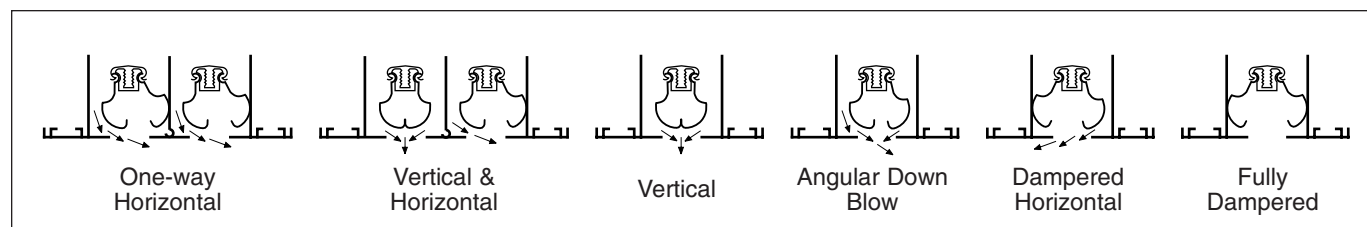
- Factory precision welding on all mitered corners.
- Pattern controllers are individually adjustable for each slot with 180° air pattern adjustment from horizontal to vertical providing volume control.
- Discharge patterns are fully field adjustable for 1-way, 2-way corner, 2-way opposite, 3-way or 4-way patterns.
- Designed for use with standard 15/16" (24) T-Bar and narrow 9/16" (14) flat T-Bar ceiling systems.
- Available in 1, 2, 3 or 4 slots.
- Choice of 3/4" (19) or 1" (25) slot width.
- Supply diffuser has a round neck for flexible duct connection.
- Optional internal or external insulation available.
- Matching return air unit is similar in design, but minus pattern controllers. For ductless plenum return applications, the **5000RCTD** incorporates a light shield to block out light and prevent see-through.

- Plenum is secured with steel S-clips and is easily removable for installation of a field cut ceiling tile (by others) into the face of the diffuser.

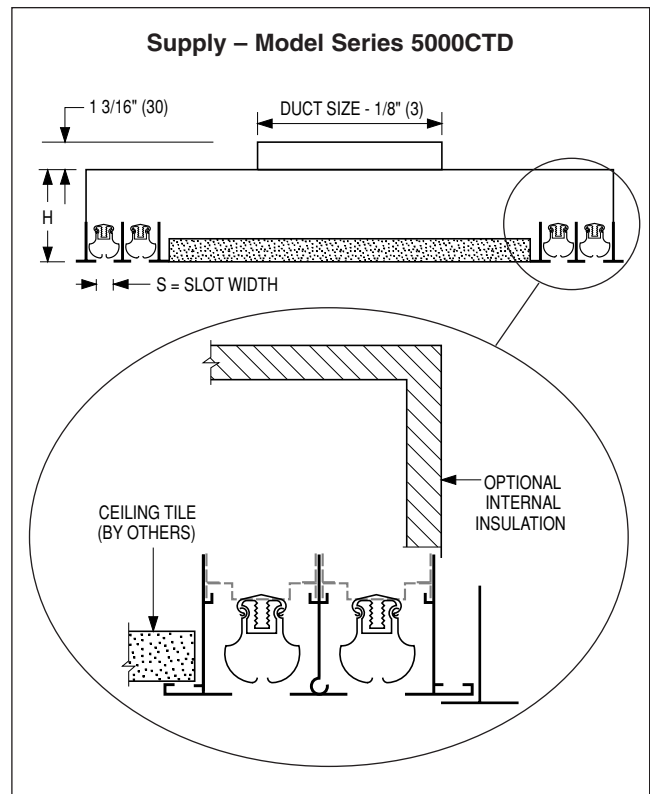
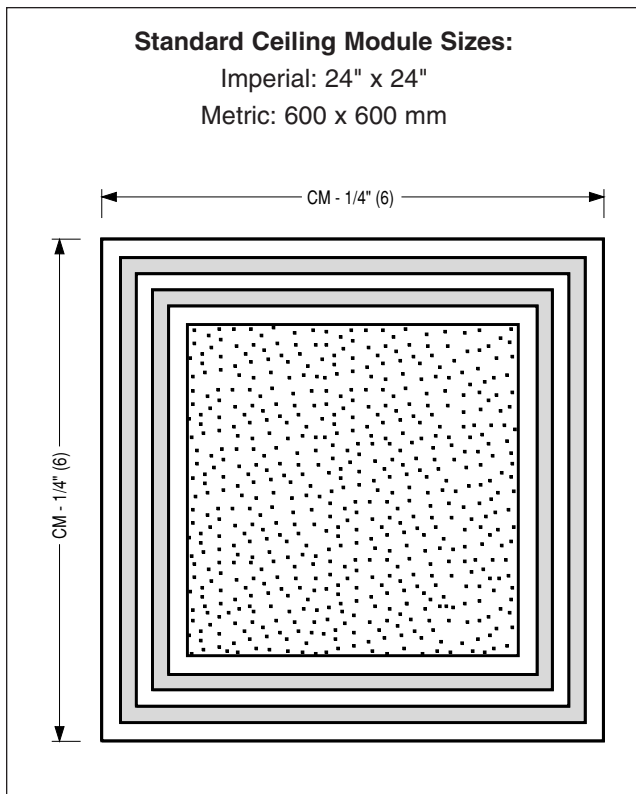
**Material:** Extruded aluminum frame, roll-formed steel pattern controllers and corrosion-resistant steel plenum.

**Finish:** AW Appliance White baked enamel face with black pattern controllers. Other finishes are available.

### 'Ice Tong' Pattern Controller Adjustment



## Dimensional Data Model Series 5000CTD



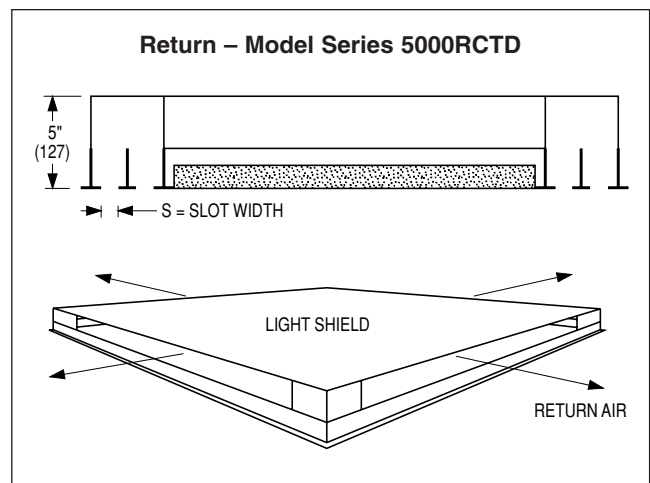
### Ceiling Tile Cutting Dimensions

| No.<br>of<br>Slots | Imperial Units (inches) |                 | H     | Metric Units (mm) |           | H   |
|--------------------|-------------------------|-----------------|-------|-------------------|-----------|-----|
|                    | Slot Width(s)           |                 |       | Slot Width(s)     |           |     |
|                    | S = 3/4                 | S = 1           |       | S = 19            | S = 25    |     |
| 1                  | 19 1/2 x 19 1/2         | 19 x 19         | 5     | 495 x 495         | 483 x 483 | 127 |
| 2                  | 16 1/2 x 16 1/2         | 15 1/2 x 15 1/2 | 5     | 419 x 419         | 394 x 394 | 127 |
| 3                  | 13 1/2 x 13 1/2         | 12 x 12         | 6 3/4 | 343 x 343         | 305 x 305 | 171 |
| 4                  | 10 1/2 x 10 1/2         | 8 1/2 x 8 1/2   | 6 3/4 | 267 x 267         | 216 x 216 | 171 |

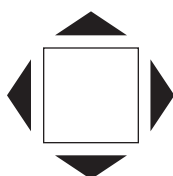
### Standard Round Inlet Sizes:

Imperial: 6", 8", 10", 12" and 14" dia.

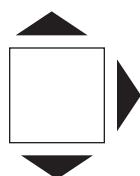
Metric: 152, 203, 254, 305 and 356 mm dia.



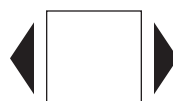
### Field Adjustable Discharge Pattern Options



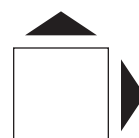
4-way blow



3-way blow



2-way  
opposite  
blow



2-way  
corner  
blow



1-way blow

## HOW TO SPECIFY OR TO ORDER

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

### Architectural Ceiling Tile Slot Diffusers – Model Series 5000CTD

|                        |  |                                                 |  |                             |  |
|------------------------|--|-------------------------------------------------|--|-----------------------------|--|
| <b>MODEL/SLOT SIZE</b> |  | <b>5075CTD - - - 02 - 08 - 24 x 24 - AW - -</b> |  | <b>ACCESSORIES</b>          |  |
| <b>Supply:</b>         |  |                                                 |  | - None (default)            |  |
| - 3/4" (19)            |  | 5075CTD                                         |  | - Internal Insulation       |  |
| - 1" (25)              |  | 5010CTD                                         |  |                             |  |
| <b>Return:</b>         |  |                                                 |  | <b>FINISH</b>               |  |
| - 3/4" (19)            |  | 5075RCTD                                        |  | - Appliance White (default) |  |
| - 1" (25)              |  | 5010RCTD                                        |  | - Aluminum                  |  |
|                        |  |                                                 |  | - Special Custom Color      |  |
| <b>FINELINE®</b>       |  | <b>F</b>                                        |  | <b>CEILING MODULE SIZE</b>  |  |
|                        |  |                                                 |  | <b>Imperial (inches)</b>    |  |
|                        |  |                                                 |  | - 24 x 24                   |  |
|                        |  |                                                 |  | <b>Metric (mm)</b>          |  |
|                        |  |                                                 |  | 600 x 600                   |  |
|                        |  |                                                 |  | <b>INLET SIZE (inches)</b>  |  |
|                        |  |                                                 |  | - 06, 08, 10, 12, 14        |  |
|                        |  |                                                 |  | <b>NO. OF SLOTS</b>         |  |
|                        |  |                                                 |  | 01 thru 04                  |  |

#### Notes:

1. Inlet size to be specified on supply models only.

D

CEILING DIFFUSERS

#### SUGGESTED SPECIFICATION:

##### 5075CTD, 5010CTD – Supply Air, Standard T-Bar

Furnish and install **Nailor Model** (select one) **5075CTD** (3/4" (19) slot) or **Model 5010CTD** (1" (25) slot) **Ceiling Tile Slot Supply Diffusers** of the sizes and capacities as shown on the plans and air distribution schedules. The diffuser shall have an extruded aluminum face, roll-formed steel pattern controllers, and a corrosion-resistant steel plenum. The outside face of the diffuser shall incorporate 1, 2, 3, or 4 (select the quantity) discharge air slots which integrate 'ice-tong' shaped adjustable pattern controllers. The center of the diffuser must accommodate a ceiling tile (provided by the installing contractor). The steel plenum shall be easily removable and include a round inlet collar that is not less than 1 3/16" (30) high. The diffuser shall fit a 24" x 24" (610 x 610) or 600 x 600 standard T-Bar ceiling system. (Optional) The diffuser shall have internal insulation. The finish shall be AW Appliance White baked enamel finish. (Optional finishes are available).

The manufacturer shall provide published performance data for the diffuser, which shall be tested in accordance with ANSI/ASHRAE Standard 70 – 1991.

##### 5075RCTD, 5010RCTD – Return Air, Standard T-Bar

Furnish and install **Nailor Model** (select one) **5075RCTD** (3/4" (19) slot) or **Model 5010RCTD** (1" (25) slot) **Ceiling Tile Slot Return Diffusers** of the sizes and capacities as shown on the plans and air distribution schedules. The diffuser shall have an extruded aluminum face, and a corrosion-resistant steel plenum. The outside face of the diffuser shall incorporate 1, 2, 3, or 4 (select the quantity) return air slots to match the supply air diffuser of the same model. The center of the diffuser must accommodate a ceiling tile (provided by the installing contractor). The diffuser shall fit a 24" x 24" (610 x 610) or 600 x 600 standard T-Bar ceiling system. A removable light shield shall be factory installed on the rear of the diffuser. The finish shall be AW Appliance White baked enamel finish. (Optional finishes are available).

The manufacturer shall provide published performance data for the diffuser, which shall be tested in accordance with ANSI/ASHRAE Standard 70 – 1991.

##### 5075CTD-F, 5010CTD-F – Supply Air, Narrow Regressed T-Bar

Furnish and install **Nailor Model** (select one) **5075CTD-F** (3/4" (19) slot) or **Model 5010CTD-F** (1" (25) slot) **Ceiling Tile Slot Supply Diffusers** of the sizes and capacities as shown on the plans and air distribution schedules. The diffuser shall have an extruded aluminum face, roll-formed steel pattern controllers, and a corrosion-resistant steel plenum. The outside face of the diffuser shall incorporate 1, 2, 3, or 4 (select the quantity) discharge air slots which integrate 'ice-tong' shaped adjustable pattern controllers. The center of the diffuser must accommodate a ceiling tile (provided by the installing contractor). The steel plenum shall be easily removable and include a round inlet collar that is not less than 1 3/16" (30) high. The diffuser shall fit a 24" x 24" (610 x 610) or 600 x 600 Narrow Regressed T-Bar ceiling system. (Optional) The diffuser shall have internal insulation. The finish shall be AW Appliance White baked enamel finish. (Optional finishes are available).

The manufacturer shall provide published performance data for the diffuser, which shall be tested in accordance with ANSI/ASHRAE Standard 70 – 1991.

##### 5075RCTD-F, 5010RCTD-F – Return Air, Narrow Regressed T-Bar

Furnish and install **Nailor Model** (select one) **5075RCTD-F** (3/4" (19) slot) or **Model 5010RCTD-F** (1" (25) slot) **Ceiling Tile Slot Return Diffusers** of the sizes and capacities as shown on the plans and air distribution schedules. The diffuser shall have an extruded aluminum face, and a corrosion-resistant steel plenum. The outside face of the diffuser shall incorporate 1, 2, 3, or 4 (select the quantity) return air slots to match the supply air diffuser of the same model. The center of the diffuser must accommodate a ceiling tile (provided by the installing contractor). The diffuser shall fit a 24" x 24" (610 x 610) or 600 x 600 Narrow Regressed T-Bar ceiling system. A removable light shield shall be factory installed on the rear of the diffuser. The finish shall be AW Appliance White baked enamel finish. (Optional finishes are available).

The manufacturer shall provide published performance data for the diffuser, which shall be tested in accordance with ANSI/ASHRAE Standard 70 – 1991.

## Performance Data

### Models 5075CTD, 5075CTD-F • 3/4" (19) Slot • Supply

|  | SIZE | Neck Velocity, FPM<br>VP | 200<br>.002 | 300<br>.006 | 400<br>.010 | 500<br>.016 | 600<br>.022 | 700<br>.031 | 800<br>.040 | 900<br>.050 |
|--|------|--------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
|--|------|--------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|

|           |                    |              |       |        |        |        |         |         |         |          |
|-----------|--------------------|--------------|-------|--------|--------|--------|---------|---------|---------|----------|
| 1<br>SLOT | 8"<br>NECK<br>DIA. | Airflow, CFM | 70    | 105    | 140    | 175    | 210     | 245     | 280     | 315      |
|           |                    | TP           | .017  | .039   | .070   | .109   | .156    | .213    | .278    | .351     |
|           |                    | T            | 2-3-6 | 3-5-10 | 4-7-12 | 5-9-14 | 7-11-16 | 8-12-17 | 9-13-18 | 10-14-19 |
|           |                    | NC           | —     | 12     | 22     | 28     | 32      | 36      | 40      | 43       |

|           |                     |              |       |        |        |         |         |         |          |          |
|-----------|---------------------|--------------|-------|--------|--------|---------|---------|---------|----------|----------|
| 2<br>SLOT | 8"<br>NECK<br>DIA.  | Airflow, CFM | 70    | 105    | 140    | 175     | 210     | 245     | 280      | 315      |
|           |                     | TP           | .008  | .019   | .033   | .052    | .075    | .102    | .134     | .169     |
|           |                     | T            | 1-2-5 | 2-3-7  | 3-5-10 | 4-6-13  | 5-7-14  | 6-9-15  | 7-11-17  | 8-12-18  |
|           |                     | NC           | —     | —      | 12     | 18      | 22      | 26      | 30       | 33       |
|           | 10"<br>NECK<br>DIA. | Airflow, CFM | 110   | 160    | 220    | 270     | 330     | 380     | 435      | 490      |
|           |                     | TP           | .017  | .036   | .068   | .102    | .153    | .203    | .266     | .337     |
|           |                     | T            | 2-4-8 | 3-6-11 | 5-8-14 | 6-10-16 | 8-13-18 | 9-15-20 | 10-16-21 | 11-17-22 |
|           |                     | NC           | —     | 14     | 20     | 26      | 30      | 34      | 38       | 41       |

|           |                     |              |        |        |         |         |          |          |          |          |
|-----------|---------------------|--------------|--------|--------|---------|---------|----------|----------|----------|----------|
| 3<br>SLOT | 10"<br>NECK<br>DIA. | Airflow, CFM | 110    | 160    | 220     | 270     | 330      | 380      | 435      | 490      |
|           |                     | TP           | .011   | .024   | .045    | .068    | .101     | .136     | .176     | .224     |
|           |                     | T            | 2-4-7  | 3-5-9  | 4-6-12  | 5-8-15  | 7-11-19  | 8-12-21  | 9-14-23  | 10-16-25 |
|           |                     | NC           | —      | 11     | 17      | 23      | 27       | 31       | 35       | 38       |
|           | 12"<br>NECK<br>DIA. | Airflow, CFM | 155    | 235    | 315     | 390     | 470      | 550      | 630      | 705      |
|           |                     | TP           | .020   | .045   | .081    | .125    | .181     | .248     | .326     | .408     |
|           |                     | T            | 3-5-10 | 5-8-14 | 6-10-18 | 8-12-21 | 10-16-25 | 12-18-26 | 14-19-27 | 15-20-28 |
|           |                     | NC           | 13     | 20     | 26      | 32      | 36       | 40       | 44       | 47       |

|           |                     |              |        |        |         |          |          |          |          |          |
|-----------|---------------------|--------------|--------|--------|---------|----------|----------|----------|----------|----------|
| 4<br>SLOT | 12"<br>NECK<br>DIA. | Airflow, CFM | 155    | 235    | 315     | 390      | 470      | 550      | 630      | 705      |
|           |                     | TP           | .015   | .034   | .062    | .092     | .138     | .189     | .248     | .310     |
|           |                     | T            | 3-4-9  | 4-6-13 | 6-9-17  | 8-11-20  | 8-13-22  | 9-16-23  | 12-18-25 | 3-19-26  |
|           |                     | NC           | 10     | 17     | 23      | 29       | 33       | 37       | 41       | 44       |
|           | 14"<br>NECK<br>DIA. | Airflow, CFM | 215    | 320    | 430     | 535      | 640      | 750      | 855      | 960      |
|           |                     | TP           | .027   | .059   | .106    | .165     | .236     | .324     | .420     | .530     |
|           |                     | T            | 4-6-12 | 6-9-18 | 8-12-21 | 10-15-23 | 12-18-25 | 14-20-27 | 16-21-29 | 17-22-31 |
|           |                     | NC           | 17     | 24     | 30      | 36       | 40       | 44       | 48       | 51       |

**CFM** - cubic feet per minute

**FPM** - feet per minute velocity

**TP** - total pressure - inches w.g.

**VP** - velocity pressure - inches w.g.

**T** - throw in feet

**NC** - Noise Criteria (values) based on  
10 dB room absorption, re 10<sup>-12</sup>  
watts.

#### Performance Notes:

1. Horizontal throws are given at 150, 100 and 50 fpm terminal velocities under isothermal conditions, using a 4-way pattern.

2. Data derived from tests conducted in accordance with ANSI/ASHRAE Standard 70 – 1991.

## Performance Data

### Models 5010CTD, 5010CTD-F • 1" (25) Slot • Supply

|  | SIZE | Neck Velocity, FPM<br>VP | 200<br>.002 | 300<br>.006 | 400<br>.010 | 500<br>.016 | 600<br>.022 | 700<br>.031 | 800<br>.040 | 900<br>.050 |
|--|------|--------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
|--|------|--------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|

|           |                     |              |        |        |        |         |         |          |          |          |
|-----------|---------------------|--------------|--------|--------|--------|---------|---------|----------|----------|----------|
| 1<br>SLOT | 8"<br>NECK<br>DIA.  | Airflow, CFM | 70     | 105    | 140    | 175     | 210     | 245      | 280      | 315      |
|           |                     | TP           | .014   | .031   | .055   | .087    | .125    | .170     | .221     | .280     |
|           |                     | T            | 2-3-6  | 3-5-10 | 4-6-12 | 5-8-14  | 6-9-15  | 7-11-17  | 8-12-18  | 9-14-19  |
|           |                     | NC           | —      | 11     | 18     | 24      | 28      | 32       | 36       | 39       |
|           | 10"<br>NECK<br>DIA. | Airflow, CFM | 110    | 160    | 220    | 270     | 330     | 380      | 435      | 490      |
|           |                     | TP           | .030   | .064   | .122   | .184    | .274    | .364     | .477     | .605     |
|           |                     | T            | 3-5-10 | 5-8-14 | 6-9-15 | 7-11-17 | 9-14-19 | 11-15-21 | 12-16-22 | 13-17-23 |
|           |                     | NC           | —      | 21     | 28     | 34      | 38      | 42       | 46       | 49       |

|           |                     |              |        |        |         |         |          |          |          |          |
|-----------|---------------------|--------------|--------|--------|---------|---------|----------|----------|----------|----------|
| 2<br>SLOT | 8"<br>NECK<br>DIA.  | Airflow, CFM | 70     | 105    | 140     | 175     | 210      | 245      | 280      | 315      |
|           |                     | TP           | .007   | .015   | .027    | .042    | .060     | .082     | .106     | .135     |
|           |                     | T            | 1-2-4  | 2-3-6  | 3-4-9   | 3-5-11  | 4-6-13   | 4-7-15   | 5-9-16   | 7-11-19  |
|           |                     | NC           | —      | —      | —       | 14      | 18       | 22       | 26       | 29       |
|           | 10"<br>NECK<br>DIA. | Airflow, CFM | 110    | 160    | 220     | 270     | 330      | 380      | 435      | 490      |
|           |                     | TP           | .013   | .027   | .051    | .077    | .115     | .153     | .200     | .254     |
|           |                     | T            | 2-3-7  | 3-5-11 | 4-7-13  | 5-9-16  | 7-11-19  | 8-14-22  | 9-15-23  | 10-16-25 |
|           |                     | NC           | —      | 11     | 18      | 24      | 28       | 32       | 36       | 39       |
|           | 12"<br>NECK<br>DIA. | Airflow, CFM | 155    | 235    | 315     | 390     | 470      | 550      | 630      | 705      |
|           |                     | TP           | .023   | .052   | .094    | .144    | .210     | .287     | .377     | .472     |
|           |                     | T            | 3-5-11 | 5-8-15 | 7-11-19 | 8-14-21 | 10-16-23 | 12-18-25 | 14-18-26 | 15-19-28 |
|           |                     | NC           | —      | 17     | 24      | 30      | 34       | 38       | 42       | 45       |

|           |                     |              |       |        |        |         |         |          |          |          |
|-----------|---------------------|--------------|-------|--------|--------|---------|---------|----------|----------|----------|
| 3<br>SLOT | 10"<br>NECK<br>DIA. | Airflow, CFM | 110   | 160    | 220    | 270     | 330     | 380      | 435      | 490      |
|           |                     | TP           | .008  | .018   | .033   | .050    | .075    | .099     | .130     | .165     |
|           |                     | T            | 2-3-6 | 3-4-9  | 4-6-12 | 5-7-15  | 6-9-18  | 8-11-20  | 9-12-22  | 10-14-24 |
|           |                     | NC           | —     | —      | 14     | 20      | 24      | 28       | 32       | 35       |
|           | 12"<br>NECK<br>DIA. | Airflow, CFM | 155   | 235    | 315    | 390     | 470     | 550      | 630      | 705      |
|           |                     | TP           | .014  | .032   | .057   | .088    | .128    | .175     | .229     | .287     |
|           |                     | T            | 3-4-9 | 4-6-13 | 6-9-18 | 8-11-20 | 9-13-23 | 10-15-25 | 12-18-27 | 13-19-28 |
|           |                     | NC           | 1     | 15     | 21     | 27      | 31      | 35       | 39       | 42       |

|           |                     |              |        |        |         |         |          |          |          |          |
|-----------|---------------------|--------------|--------|--------|---------|---------|----------|----------|----------|----------|
| 4<br>SLOT | 12"<br>NECK<br>DIA. | Airflow, CFM | 155    | 235    | 315     | 390     | 470      | 550      | 630      | 705      |
|           |                     | TP           | .010   | .024   | .042    | .065    | .094     | .129     | .170     | .210     |
|           |                     | T            | 2-4-8  | 4-5-11 | 5-8-15  | 7-10-20 | 8-12-21  | 9-14-23  | 11-15-25 | 12-17-27 |
|           |                     | NC           | —      | 13     | 19      | 25      | 29       | 33       | 37       | 40       |
|           | 14"<br>NECK<br>DIA. | Airflow, CFM | 215    | 320    | 430     | 535     | 640      | 750      | 855      | 960      |
|           |                     | TP           | .017   | .039   | .070    | .108    | .154     | .212     | .275     | .347     |
|           |                     | T            | 3-5-10 | 5-8-15 | 7-10-21 | 9-14-23 | 11-16-25 | 13-18-28 | 15-19-30 | 17-20-32 |
|           |                     | NC           | 13     | 20     | 26      | 32      | 36       | 40       | 44       | 47       |

**CFM** - cubic feet per minute

**FPM** - feet per minute velocity

**TP** - total pressure - inches w.g.

**VP** - velocity pressure - inches w.g.

**T** - throw in feet

**NC** - Noise Criteria (values) based on 10 dB room absorption, re 10<sup>-12</sup> watts.

#### Performance Notes:

1. Horizontal throws are given at 150, 100 and 50 fpm terminal velocities under isothermal conditions, using a 4-way pattern.

2. Data derived from tests conducted in accordance with ANSI/ASHRAE Standard 70 – 1991.

## Performance Data

### Models 5075RCTD, 5075RCTD-F • 3/4" (19) Slot • Return

| No. of Slots | Neg. SP   | .006     | .028      | .065      | .110      | .170       | .250       | .350       | .465       |
|--------------|-----------|----------|-----------|-----------|-----------|------------|------------|------------|------------|
| 1            | CFM<br>NC | 70<br>—  | 140<br>—  | 210<br>16 | 280<br>24 | 350<br>30  | 420<br>35  | 490<br>39  | 560<br>43  |
| 2            | CFM<br>NC | 130<br>— | 260<br>—  | 390<br>19 | 520<br>27 | 650<br>33  | 780<br>38  | 910<br>42  | 1040<br>46 |
| 3            | CFM<br>NC | 180<br>— | 360<br>10 | 540<br>21 | 720<br>29 | 900<br>35  | 1080<br>40 | 1260<br>44 | 1440<br>48 |
| 4            | CFM<br>NC | 220<br>— | 440<br>10 | 660<br>21 | 880<br>29 | 1100<br>35 | 1320<br>40 | 1540<br>44 | 1760<br>48 |

### Models 5010RCTD, 5010RCTD-F • 1" (25) Slot • Return

| No. of Slots | Neg. SP   | .006     | .028      | .065      | .110       | .170       | .250       | .350       | .465       |
|--------------|-----------|----------|-----------|-----------|------------|------------|------------|------------|------------|
| 1            | CFM<br>NC | 140<br>— | 210<br>—  | 280<br>17 | 350<br>23  | 420<br>28  | 490<br>32  | 560<br>36  | 700<br>42  |
| 2            | CFM<br>NC | 253<br>— | 380<br>12 | 507<br>20 | 633<br>26  | 760<br>31  | 887<br>35  | 1013<br>39 | 1267<br>45 |
| 3            | CFM<br>NC | 340<br>— | 510<br>13 | 680<br>21 | 850<br>27  | 1020<br>32 | 1190<br>36 | 1360<br>40 | 1700<br>46 |
| 4            | CFM<br>NC | 400<br>— | 600<br>14 | 800<br>22 | 1000<br>28 | 1200<br>33 | 1400<br>37 | 1600<br>41 | 2000<br>47 |

**CFM** - cubic feet per minute  
**NC** - Noise Criteria (values) based on 10 dB room absorption, re 10<sup>-12</sup> watts.  
**Neg. SP** - Negative static pressure (inches w.g.)

#### Performance Notes:

1. Dash (—) in space indicates an NC value of less than 10.
2. Data derived from tests conducted in accordance with ANSI/ASHRAE Standard 70 – 1991.



## ARCHITECTURAL PLAQUE DIFFUSERS

- ADJUSTABLE OPENING
- SQUARE FACE
- SQUARE NECK
- STEEL

### Model:

**6600 Steel**

- Suffix '-O' adds a steel opposed blade damper



Model 6600

**D**

**CEILING DIFFUSERS**

The **Nailor Model Series 6600 Ceiling Diffusers** have been designed to satisfy both architectural and engineering criteria. The clean uncluttered face panel design compliments any decor, blending beautifully with virtually any architectural style or requirement.

The face panel, which is located below the ceiling line, provides a horizontal discharge and a 360° diffusion pattern at minimum NC levels required for high engineering performance. This makes the **6600 Series** ideally suitable for VAV systems. The face panel is adjustable by means of four spring-loaded countersunk screws located at the four corners of the panel which can be positioned to provide a 1/2" (13) to 1 1/4" (32) variable opening. This provides great flexibility, as the diffusers length of throw at any given air volume may be increased or decreased in order to adapt to field conditions.

The **6600 Series** are designed for both surface mount and lay-in T-Bar applications with the addition of a ceiling module sized panel. The collar is a full 1 1/2" (38) in height for easy, secure duct connection.

### FEATURES:

- Square duct sizes are available in 3" (76) increments.

Minimum Size: 6" x 6" (152 x 152).

Maximum Size: 18" x 18" (457 x 457).

- High neck collar for secure connection.

- Face panel features a hemmed finish providing both strength and a professional, clean, safety edge.

- Optional roll-formed steel opposed blade damper available with a lever operator that permits volume control without removing face panel.

- Square-to-round transition adaptors are available for round flexible duct connection (SR option).

- Optional factory installed hinged air deflectors are available for 1, 2 or 3-way directional control.

**Material:** Corrosion-resistant steel.

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

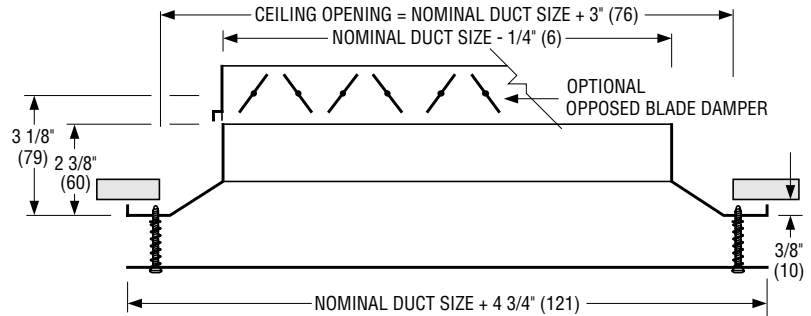
## Dimensional Data and Frame Types

### Model 6600

#### Type S Surface Mount

##### Available Duct Sizes

| Inches  | mm        |
|---------|-----------|
| 6 x 6   | 152 x 152 |
| 9 x 9   | 229 x 229 |
| 12 x 12 | 305 x 305 |
| 15 x 15 | 381 x 381 |
| 18 x 18 | 457 x 457 |

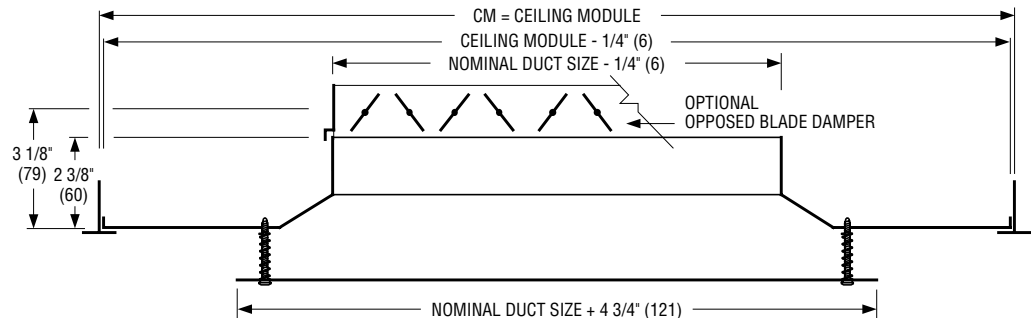


#### Type PL Panel Mounted Lay-in T-Bar

##### Available Sizes

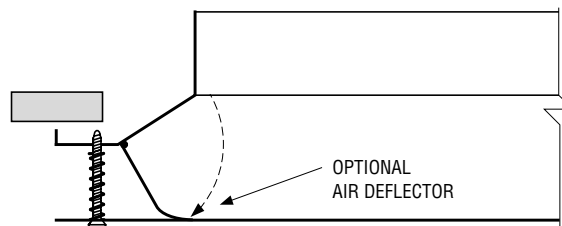
| Ceiling Module Size |             | Duct Size |           |         |           |
|---------------------|-------------|-----------|-----------|---------|-----------|
| Imperial (inches)   | Metric (mm) | Minimum   |           | Maximum |           |
|                     |             | inches    | mm        | inches  | mm        |
| 20 x 20             | 500 x 500   | 6 x 6     | 152 x 152 | 12 x 12 | 305 x 305 |
| 24 x 24             | 600 x 600   | 6 x 6     | 152 x 152 | 18 x 18 | 457 x 457 |

Duct sizes are available in 3" (76) increments.

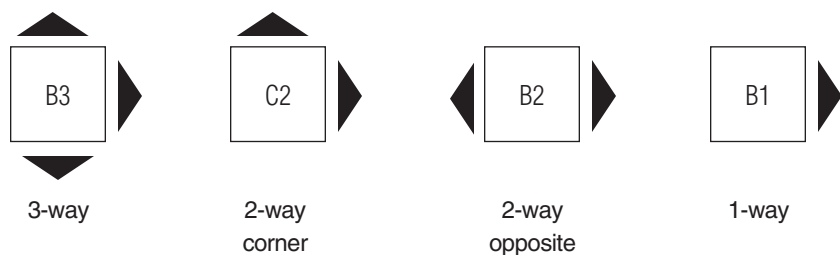


#### Directional Blow Option

- Factory installed.
- Hinged air deflector(s) for 1, 2 or 3-way blow pattern.
- Simple adjustment from face of diffuser provides field location flexibility.
- Deflector swings up or down from outer cone providing a full length blank-off.
- Finish to match diffuser.
- One, two or three deflectors are supplied and installed dependent upon blow pattern specified.



#### Blow Patterns



## HOW TO SPECIFY OR TO ORDER

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

### Plaque Face Diffusers – Model Series 6600

**6600 - O - 9 x 9 - 24 x 24 - PL - AW - B4 - SR08**

#### MODEL

- Steel Construction 6600

#### DAMPER

- No Damper (default) —  
- Opposed Blade Damper O

#### NECK SIZE (inches)

- 6 x 6, 9 x 9, 12 x 12, 15 x 15, 18 x 18

#### CEILING MODULE SIZE

(Type PL only)

**Imperial (inches) Metric (mm)**

- 20 x 20 500 x 500  
- 24 x 24 600 x 600

#### FRAME STYLE

- Surface Mount S  
- Panel Lay-in T-Bar PL

#### ACCESSORIES

- None (default) —  
- Square to Round Transition Collar SR (04 thru 18 specify)  
- Earthquake Tabs EQT

#### AIR BALANCING DEVICES

##### Square Neck

- Equalizing Grid EGL  
- Damper/Equalizing Grid DEGL

##### Round Neck

- Radial Sliding Blade Damper 4250  
- Radial Opposed Blade Damper 4275  
- Butterfly Damper 4675  
- Equalizing Grid EGR  
- Damper/Equalizing Grid DEGR

#### BLOW PATTERN

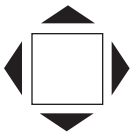
4-Way Blow (default) —  
3-Way Blow B3  
2-Way Opposite Blow B2  
2-Way Corner Blow C2  
1-Way Blow B1

#### FINISH

- Appliance White (default) AW  
- Aluminum AL  
- Special Custom Color SP

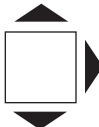
#### STANDARD AIR PATTERNS.

Default  
4-way  
blow



#### BLOW PATTERNS WITH OPTIONAL FACTORY INSTALLED QUADRANT BLANKS.

B3  
3-way  
blow



B2  
2-way  
opposite  
blow



C2  
2-way  
corner  
blow



B1  
1-way  
blow



#### SUGGESTED SPECIFICATION:

Furnish and install **Nailor Model 6600 Plaque Face Diffusers** of the sizes and capacities as shown on the plans and air distribution schedules. The diffuser shall be manufactured from corrosion-resistant steel and include a flat square face panel that can be positioned to provide an opening that is adjustable from 1/2" (13) to 1 1/4" (32). A high neck square duct connection collar shall be an integral part of the frame assembly. The finish shall be AW Appliance White baked enamel (optional finishes are available).

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

(Optional) The diffuser shall incorporate factory installed hinged air deflector(s) that will provide a 1-way, 2-way corner, 2-way opposite or 3-way throw pattern (specifier to select a pattern).

The manufacturer shall provide published performance data for the diffuser, which shall be tested in accordance with ANSI/ASHRAE Standard 70 – 1991.

## Performance Data

### Model 6600 • Square Neck

| Neck Size   | Face Opening | Neck Velocity, FPM<br>VP<br>Airflow, CFM | 160<br>.002<br>40 | 240<br>.004<br>60 | 320<br>.006<br>80 | 400<br>.010<br>100 | 600<br>.023<br>150 | 800<br>.040<br>200 | 1000<br>.063<br>250 | 1200<br>.090<br>300 | 1400<br>.122<br>350 |
|-------------|--------------|------------------------------------------|-------------------|-------------------|-------------------|--------------------|--------------------|--------------------|---------------------|---------------------|---------------------|
| 6<br>x<br>6 | 1 1/4"       | TP                                       |                   |                   |                   | .03                | .06                | .10                | .16                 | .23                 | .31                 |
|             |              | T                                        |                   |                   |                   | 1                  | 3                  | 5                  | 6                   | 7                   | 9                   |
|             |              | NC                                       |                   |                   |                   | 13                 | 18                 | 21                 | 25                  | 30                  | 36                  |
|             | 1"           | TP                                       |                   |                   | .02               | .03                | .07                | .11                | .17                 | .26                 | .34                 |
|             |              | T                                        |                   |                   | 2                 | 2                  | 4                  | 6                  | 7                   | 8                   | 10                  |
|             |              | NC                                       |                   |                   | —                 | 13                 | 18                 | 21                 | 25                  | 31                  | 37                  |
|             | 3/4"         | TP                                       | .01               | .01               | .02               | .03                | .08                | .13                | .21                 | .30                 | .41                 |
|             |              | T                                        | 2                 | 2                 | 3                 | 3                  | 5                  | 7                  | 8                   | 9                   | 10                  |
|             |              | NC                                       | —                 | —                 | —                 | 14                 | 19                 | 22                 | 26                  | 32                  | 38                  |
|             | 1/2"         | TP                                       | .01               | .02               | .03               | .05                | .10                | .18                | .28                 | .41                 | .56                 |
|             |              | T                                        | 3                 | 3                 | 4                 | 4                  | 6                  | 8                  | 9                   | 10                  | 11                  |
|             |              | NC                                       | —                 | —                 | —                 | 15                 | 20                 | 23                 | 26                  | 35                  | 40                  |

| Neck Size   | Face Opening | Neck Velocity, FPM<br>VP<br>Airflow, CFM | 89<br>.001<br>50 | 133<br>.001<br>75 | 178<br>.002<br>100 | 267<br>.004<br>150 | 356<br>.008<br>200 | 444<br>.012<br>250 | 533<br>.018<br>300 | 711<br>.031<br>400 | 800<br>.040<br>450 |
|-------------|--------------|------------------------------------------|------------------|-------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| 9<br>x<br>9 | 1 1/4"       | TP                                       |                  |                   |                    | .01                | .02                | .04                | .06                | .10                | .12                |
|             |              | T                                        |                  |                   |                    | 2                  | 3                  | 5                  | 6                  | 8                  | 9                  |
|             |              | NC                                       |                  |                   |                    | 12                 | 17                 | 20                 | 23                 | 32                 | 37                 |
|             | 1"           | TP                                       |                  |                   | .01                | .02                | .03                | .05                | .07                | .12                | .15                |
|             |              | T                                        |                  |                   | 2                  | 4                  | 5                  | 6                  | 7                  | 10                 | 11                 |
|             |              | NC                                       |                  |                   | —                  | 13                 | 18                 | 21                 | 24                 | 33                 | 39                 |
|             | 3/4"         | TP                                       |                  | .01               | .01                | .03                | .04                | .07                | .10                | .17                | .21                |
|             |              | T                                        |                  | 2                 | 3                  | 5                  | 6                  | 7                  | 9                  | 11                 | 13                 |
|             |              | NC                                       |                  | —                 | —                  | 14                 | 19                 | 22                 | 25                 | 35                 | 40                 |
|             | 1/2"         | TP                                       | .01              | .01               | .02                | .04                | .07                | .12                | .17                | .29                | .37                |
|             |              | T                                        | 2                | 3                 | 4                  | 6                  | 7                  | 9                  | 10                 | 13                 | 14                 |
|             |              | NC                                       | —                | —                 | —                  | 15                 | 20                 | 23                 | 26                 | 37                 | 42                 |

| Neck Size     | Face Opening | Neck Velocity, FPM<br>VP<br>Airflow, CFM | 50<br>.001<br>50 | 100<br>.001<br>100 | 150<br>.002<br>150 | 200<br>.003<br>200 | 250<br>.004<br>250 | 300<br>.006<br>300 | 400<br>.010<br>400 | 500<br>.016<br>500 | 600<br>.023<br>550 |
|---------------|--------------|------------------------------------------|------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| 12<br>x<br>12 | 1 1/4"       | TP                                       |                  |                    | .01                | .01                | .02                | .03                | .04                | .07                | .09                |
|               |              | T                                        |                  |                    | 3                  | 4                  | 6                  | 7                  | 9                  | 12                 | 13                 |
|               |              | NC                                       |                  |                    | —                  | 13                 | 17                 | 21                 | 26                 | 33                 | 38                 |
|               | 1"           | TP                                       |                  | .01                | .01                | .02                | .03                | .04                | .06                | .09                | .12                |
|               |              | T                                        |                  | 2                  | 4                  | 5                  | 7                  | 8                  | 10                 | 13                 | 14                 |
|               |              | NC                                       |                  | —                  | —                  | 13                 | 17                 | 21                 | 26                 | 34                 | 38                 |
|               | 3/4"         | TP                                       |                  | .01                | .01                | .03                | .04                | .06                | .09                | .15                | .18                |
|               |              | T                                        |                  | 3                  | 5                  | 6                  | 7                  | 9                  | 11                 | 14                 | 15                 |
|               |              | NC                                       |                  | —                  | —                  | 14                 | 18                 | 22                 | 27                 | 35                 | 40                 |
|               | 1/2"         | TP                                       | .01              | .01                | .03                | .05                | .07                | .10                | .18                | .28                | .34                |
|               |              | T                                        | 2                | 4                  | 6                  | 7                  | 8                  | 10                 | 12                 | 15                 | 17                 |
|               |              | NC                                       | —                | —                  | —                  | 15                 | 20                 | 23                 | 30                 | 39                 | 45                 |

For performance notes, see next page.

## Performance Data

### Model 6600 • Square Neck

| Neck Size     | Face Opening | Neck Velocity, FPM<br>VP<br>Airflow, CFM | 32<br>.001<br>50 | 64<br>.001<br>100 | 96<br>.001<br>150 | 128<br>.001<br>200 | 192<br>.002<br>300 | 256<br>.004<br>400 | 320<br>.006<br>500 | 384<br>.009<br>600 | 448<br>.013<br>700 |
|---------------|--------------|------------------------------------------|------------------|-------------------|-------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| 15<br>x<br>15 | 1 1/4"       | TP                                       |                  |                   |                   | .01                | .01                | .03                | .05                | .06                | .09                |
|               |              | T                                        |                  |                   |                   | 3                  | 5                  | 6                  | 9                  | 10                 | 12                 |
|               |              | NC                                       |                  |                   |                   | —                  | 18                 | 22                 | 27                 | 33                 | 39                 |
|               | 1"           | TP                                       |                  |                   | .01               | .01                | .02                | .04                | .06                | .09                | .12                |
|               |              | T                                        |                  |                   | 2                 | 4                  | 6                  | 8                  | 11                 | 13                 | 14                 |
|               |              | NC                                       |                  |                   | —                 | 13                 | 19                 | 23                 | 28                 | 35                 | 42                 |
|               | 3/4"         | TP                                       |                  | .01               | .01               | .02                | .03                | .07                | .10                | .14                | .19                |
|               |              | T                                        |                  | 2                 | 4                 | 5                  | 8                  | 10                 | 13                 | 15                 | 17                 |
|               |              | NC                                       |                  | —                 | —                 | —                  | 15                 | 21                 | 26                 | 32                 | 40                 |
|               | 1/2"         | TP                                       | .01              | .01               | .02               | .03                | .07                | .13                | .20                | .28                | .38                |
|               |              | T                                        | 2                | 3                 | 5                 | 6                  | 9                  | 12                 | 15                 | 18                 | 21                 |
|               |              | NC                                       | —                | —                 | —                 | 15                 | 21                 | 26                 | 32                 | 40                 | 49                 |

| Neck Size     | Face Opening | Neck Velocity, FPM<br>VP<br>Airflow, CFM | 22<br>.001<br>50 | 44<br>.001<br>100 | 89<br>.001<br>200 | 133<br>.001<br>300 | 178<br>.002<br>400 | 222<br>.003<br>500 | 267<br>.005<br>600 | 311<br>.006<br>700 | 356<br>.008<br>800 |
|---------------|--------------|------------------------------------------|------------------|-------------------|-------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| 18<br>x<br>18 | 1 1/4"       | TP                                       |                  |                   | .01               | .01                | .02                | .03                | .05                | .07                | .08                |
|               |              | T                                        |                  |                   | 2                 | 4                  | 6                  | 6                  | 9                  | 11                 | 13                 |
|               |              | NC                                       |                  |                   | —                 | 14                 | 20                 | 23                 | 28                 | 33                 | 40                 |
|               | 1"           | TP                                       |                  |                   | .01               | .02                | .03                | .05                | .07                | .10                | .13                |
|               |              | T                                        |                  |                   | 3                 | 5                  | 8                  | 8                  | 10                 | 14                 | 15                 |
|               |              | NC                                       |                  |                   | —                 | 14                 | 20                 | 24                 | 29                 | 35                 | 43                 |
|               | 3/4"         | TP                                       | .01              | .01               | .01               | .03                | .05                | .07                | .12                | .15                | .20                |
|               |              | T                                        | 2                | 3                 | 5                 | 7                  | 9                  | 10                 | 14                 | 16                 | 18                 |
|               |              | NC                                       | —                | —                 | —                 | 15                 | 21                 | 25                 | 31                 | 37                 | 46                 |
|               | 1/2"         | TP                                       | .01              | .01               | .02               | .05                | .10                | .14                | .22                | .29                | .38                |
|               |              | T                                        | 2                | 4                 | 6                 | 9                  | 12                 | 14                 | 17                 | 19                 | 21                 |
|               |              | NC                                       | —                | —                 | 10                | 16                 | 22                 | 27                 | 33                 | 40                 | 50                 |

**CFM** - cubic feet per minute

**TP** - total pressure - inches w.g.

**VP** - velocity pressure - inches w.g.

**T** - throw in feet

**NC** - Noise Criteria (values) based on 10 dB room absorption, re 10<sup>-12</sup> watts.

#### Performance Notes:

1. Throw values are given for a terminal velocity of 50 fpm under isothermal conditions.

2. Data derived from tests conducted in accordance with ANSI/ASHRAE Standard 70 – 1991.

3. The addition of direction blow blank-offs reduces the effective area and for a given air volume, increases the discharge velocity with a resultant increase in throw, pressure drop and sound level. To determine throw, select the diffuser as if it were supplying a larger volume of air. The table shows the percentage increase required to determine diffuser airflow selection to determine throw.

Corrections to pressure drop and NC level may be approximated by using correction factors as shown and applying them to the 4-way blow value listed in the performance tables.

| Blow Pattern | % Increase In Air Volume For Throw Determination | TP Increase Correction Factor | NC Sound Level Add |
|--------------|--------------------------------------------------|-------------------------------|--------------------|
| 3-way        | 35                                               | x 1.5                         | + 10               |
| 2-way        | 100                                              | x 4.0                         | + 15               |
| 1-way        | 400                                              | x 8.0                         | + 30               |

## ARCHITECTURAL SLOT PLAQUE DIFFUSER

- PERIMETER SLOT
- PLAQUE CENTER
- ROUND NECK

**Model:**  
**66UNI Steel**



The **Nailor Model Series 66UNI Plaque Diffuser with Perimeter Slots** has been specially designed to provide an unobtrusive appearance required for architectural excellence. A plaque face that sits flush in the center of the diffuser is surrounded by a choice of 1, 2 or 3 perimeter slots. This diffuser is designed specifically to integrate with 2' x 2' (610 x 610) ceiling module suspension systems.

The 66UNI provides a tight horizontal air pattern from maximum to minimum airflow and is ideal for VAV applications. The diffuser is provided with a deep plenum backpan to provide optimum performance by minimizing pressure drop and noise.

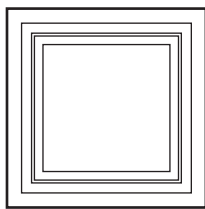
### FEATURES:

- Clean lines with no unsightly visible screws.
- 24" x 24" (610 x 610) ceiling module size.
- Available with a choice of 1, 2, or 3 perimeter slots.
- Deep plenum backpan for premium performance.
- Spring loaded core. Removable without the use of tools.
- High neck collar for secure connection.

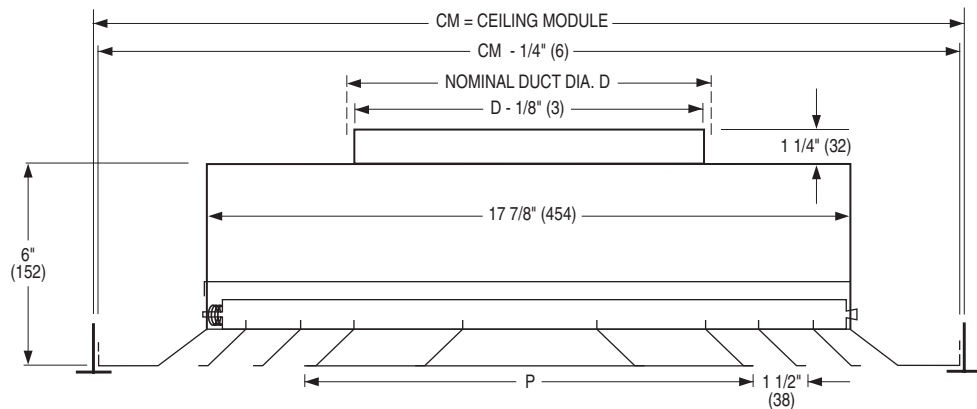
**Material:** Corrosion-resistant steel.

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

### Type L Lay-in T-Bar

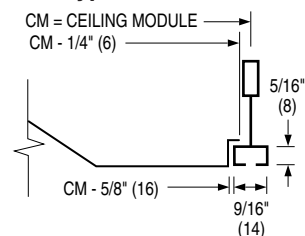


FACE VIEW ILLUSTRATION  
OF 2 SLOT UNIT.



| Ceiling Module Size CM | No. of Slots | Nominal Round Duct Size D       | Plaque Face P |
|------------------------|--------------|---------------------------------|---------------|
| 24 x 24<br>(610 x 610) | 1            | 6,8,10 (152, 203, 254)          | 18 5/16 (465) |
|                        | 2            | 6,8,10,12 (152, 203, 254, 305)  | 15 5/16 (389) |
|                        | 3            | 8,10,12,14 (203, 254, 305, 356) | 12 5/16 (313) |

### Type F Fineline®





## HOW TO SPECIFY OR TO ORDER

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

### Architectural Slot Plaque Diffusers – Model Series 66UNI

|                                  |       |                               |      |
|----------------------------------|-------|-------------------------------|------|
| <b>MODEL</b> _____               |       | <b>ACCESSORIES</b>            |      |
| - Steel Construction             | 66UNI | - None (default)              | —    |
| <b>NECK SIZE (inches)</b> _____  |       | - Earthquake Tabs             | EQT  |
| - 06, 08, 10, 12, 14             |       | <b>AIR BALANCING DEVICES</b>  |      |
| <b>NO. OF SLOTS</b> _____        |       | - Radial Sliding Blade Damper | 4250 |
| - 1, 2, 3                        |       | - Radial Opposed Blade Damper | 4275 |
| <b>CEILING MODULE SIZE</b> _____ |       | - Butterfly Damper            | 4675 |
| <b>(inches) (mm)</b>             |       | - Equalizing Grid             | EGR  |
| - 24 x 24 (610 x 610)            |       | - Damper/Equalizing Grid      | DEGR |
| <b>FRAME/BORDER TYPE</b> _____   |       | <b>FINISH</b>                 |      |
| - Lay-in T-Bar                   | L     | - Appliance White (default)   | AW   |
| - Fineline®                      | F     | - Aluminum                    | AL   |
|                                  |       | - Special Custom Color        | SP   |

**D**

**CEILING DIFFUSERS**

#### Notes:

1. Consult text for availability of neck sizes with "No. of Slots" selection.

#### SUGGESTED SPECIFICATION:

Furnish and install **Nailor Model 66UNI Slot Plaque Diffusers** of the sizes and capacities as shown on the plans and air distribution schedules. The diffuser shall be manufactured from corrosion-resistant steel and include a deep plenum backpan that has a round duct connection collar. The diffuser is to be sized to suit a 24" x 24" (610 x 610) ceiling suspension system. The center of the diffuser shall have a smooth flat plaque face in which 1, 2, or 3 (select one) perimeter slot(s) surround it. The core shall be spring loaded and removable without the use of tools. The finish shall be AW Appliance White baked enamel (optional finishes are available).

The manufacturer shall provide published performance data for the diffuser, which shall be tested in accordance with ANSI/ASHRAE Standard 70 – 1991.

## Performance Data

### Model 66UNI • 24 x 24 (610 x 610) Ceiling Module

#### 1 Slot

|               |                    |       |        |        |        |        |         |         |         |         |
|---------------|--------------------|-------|--------|--------|--------|--------|---------|---------|---------|---------|
| 6" Dia. Neck  | Airflow, cfm       | 79    | 99     | 118    | 138    | 158    | 177     | 197     | 236     | 276     |
|               | Neck Velocity, fpm | 400   | 500    | 600    | 700    | 800    | 900     | 1000    | 1200    | 1400    |
|               | Total Pressure     | 0.021 | 0.033  | 0.048  | 0.066  | 0.086  | 0.108   | 0.133   | 0.192   | 0.261   |
|               | Static Pressure    | 0.011 | 0.017  | 0.026  | 0.035  | 0.046  | 0.058   | 0.071   | 0.102   | 0.139   |
| 8" Dia. Neck  | Throw              | 2-3-5 | 2-3-7  | 3-4-7  | 3-5-8  | 4-5-10 | 4-6-12  | 4-7-13  | 5-8-14  | 6-8-14  |
|               | NC                 | —     | —      | 17     | 21     | 25     | 8       | 31      | 35      | 40      |
|               | Airflow, cfm       | 140   | 166    | 192    | 218    | 244    | 270     | 297     | 323     | 349     |
|               | Neck Velocity, fpm | 400   | 475    | 500    | 625    | 700    | 775     | 850     | 925     | 1000    |
| 10" Dia. Neck | Total Pressure     | 0.026 | 0.036  | 0.048  | 0.063  | 0.079  | 0.097   | 0.117   | 0.139   | 0.162   |
|               | Static Pressure    | 0.016 | 0.022  | 0.029  | 0.039  | 0.048  | 0.060   | 0.072   | 0.086   | 0.100   |
|               | Throw              | 3-5-8 | 4-5-10 | 4-6-12 | 5-6-13 | 5-7-13 | 5-8-14  | 6-9-14  | 6-10-15 | 7-11-15 |
|               | NC                 | —     | 18     | 22     | 25     | 28     | 31      | 33      | 36      | 38      |
| 12" Dia. Neck | Airflow, cfm       | 109   | 150    | 191    | 232    | 273    | 313     | 354     | 395     | 456     |
|               | Neck Velocity, fpm | 200   | 275    | 350    | 425    | 500    | 575     | 650     | 725     | 800     |
|               | Total Pressure     | 0.008 | 0.014  | 0.023  | 0.034  | 0.047  | 0.062   | 0.080   | 0.099   | 0.121   |
|               | Static Pressure    | 0.006 | 0.009  | 0.015  | 0.023  | 0.031  | 0.041   | 0.054   | 0.066   | 0.081   |
| 14" Dia. Neck | Throw              | 2-4-6 | 3-5-9  | 4-5-12 | 5-7-13 | 5-8-14 | 6-10-14 | 7-11-15 | 8-12-16 | 9-13-17 |
|               | NC                 | —     | —      | 16     | 21     | 25     | 29      | 32      | 35      | 37      |

#### 2 Slot

|               |                    |        |        |        |         |         |         |          |          |          |
|---------------|--------------------|--------|--------|--------|---------|---------|---------|----------|----------|----------|
| 6" Dia. Neck  | Airflow, cfm       | 59     | 94     | 128    | 163     | 197     | 231     | 266      | 300      | 335      |
|               | Neck Velocity, fpm | 300    | 475    | 650    | 825     | 100     | 1175    | 1350     | 1525     | 17000    |
|               | Total Pressure     | 0.010  | 0.024  | 0.045  | 0.072   | 0.105   | 0.146   | 0.193    | 0.246    | 0.305    |
|               | Static Pressure    | 0.004  | 0.010  | 0.019  | 0.030   | 0.043   | 0.060   | 0.079    | 0.101    | 0.125    |
| 8" Dia. Neck  | Throw              | 0-1-3  | 1-2-4  | 2-3-5  | 2-4-7   | 3-5-8   | 4-5-10  | 4-5-12   | 5-6-13   | 5-7-14   |
|               | NC                 | —      | —      | —      | 17      | 22      | 26      | 30       | 33       | 36       |
|               | Airflow, cfm       | 140    | 192    | 244    | 297     | 349     | 401     | 454      | 506      | 558      |
|               | Neck Velocity, fpm | 400    | 550    | 700    | 850     | 1000    | 1150    | 1300     | 1450     | 1600     |
| 10" Dia. Neck | Total Pressure     | 0.021  | 0.039  | 0.063  | 0.092   | 0.128   | 0.169   | 0.217    | 0.269    | 0.328    |
|               | Static Pressure    | 0.011  | 0.020  | 0.032  | 0.047   | 0.066   | 0.087   | 0.112    | 0.138    | 0.168    |
|               | Throw              | 2-3-6  | 3-5-8  | 4-5-11 | 5-6-13  | 5-7-15  | 5-9-16  | 6-10-18  | 7-11-19  | 8-12-20  |
|               | NC                 | —      | —      | 20     | 25      | 29      | 33      | 36       | 39       | 42       |
| 12" Dia. Neck | Airflow, cfm       | 218    | 273    | 327    | 382     | 436     | 491     | 545      | 600      | 654      |
|               | Neck Velocity, fpm | 400    | 500    | 600    | 700     | 800     | 900     | 1000     | 1100     | 1200     |
|               | Total Pressure     | 0.024  | 0.037  | 0.053  | 0.073   | 0.095   | 0.121   | 0.149    | 0.18     | 0.214    |
|               | Static Pressure    | 0.014  | 0.021  | 0.031  | 0.042   | 0.055   | 0.071   | 0.087    | 0.105    | 0.124    |
| 14" Dia. Neck | Throw              | 3-5-9  | 4-6-12 | 5-7-14 | 5-8-16  | 6-9-17  | 7-11-18 | 8-12-19  | 9-13-21  | 9-14-22  |
|               | NC                 | —      | 16     | 21     | 25      | 29      | 32      | 35       | 37       | 40       |
|               | Airflow, cfm       | 236    | 314    | 393    | 471     | 550     | 628     | 707      | 785      | 864      |
|               | Neck Velocity, fpm | 300    | 400    | 500    | 600     | 700     | 800     | 900      | 1000     | 1100     |
| 16" Dia. Neck | Total Pressure     | 0.015  | 0.027  | 0.042  | 0.061   | 0.083   | 0.107   | 0.136    | 0.168    | 0.203    |
|               | Static Pressure    | 0.009  | 0.017  | 0.026  | 0.039   | 0.052   | 0.067   | 0.086    | 0.106    | 0.128    |
|               | Throw              | 4-5-10 | 5-7-14 | 5-8-16 | 7-10-18 | 8-12-20 | 9-14-21 | 10-15-22 | 12-16-23 | 13-17-24 |
|               | NC                 | —      | 15     | 21     | 26      | 30      | 33      | 36       | 39       | 42       |

#### Performance Notes:

1. All pressures are in inches w.g.
2. Throws are given at 150, 100 and 50 fpm terminal velocities, under isothermal conditions.
3. NC (Noise Criteria) values are based on 10 dB room absorption, re 10<sup>-12</sup> watts. Dash (-) in spaces indicates an NC level of less than 15.
4. Data derived from tests conducted in accordance with ANSI/ASHRAE Standard 70 – 1991.

#### Balancing:

It is recommended that a commercially available 'Flow Hood' is used for field balancing. The airflow meter directly reads average flow rate with great accuracy at all volumes. It is a much faster and more accurate alternative to time consuming multiple velocity readings, eliminating the use of Ak factors and the calculations required to convert the average velocity into airflow.

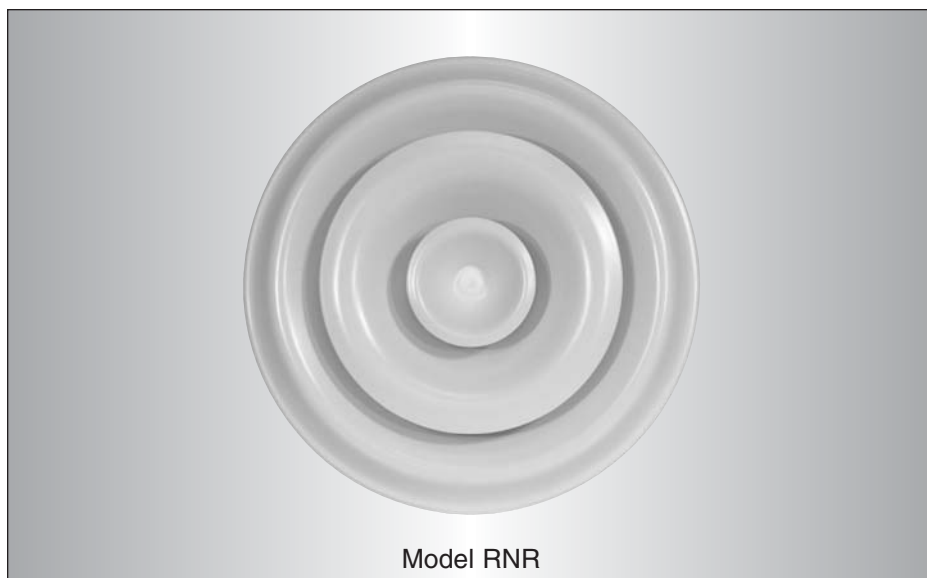
## ROUND CEILING DIFFUSERS

- ADJUSTABLE
- HORIZONTAL DISCHARGE PATTERN
- LOUVERED FACE

### Models:

**RNR Steel**

**ARNR Aluminum**



Model RNR

The **Nailor RNR Series Round Ceiling Diffusers** feature three concentric cones in all sizes to offer a balanced appearance where different sizes are used in the same area. The diffusers deliver the air in a true 360° radial horizontal pattern and produce excellent performance in variable air volume systems.

The **Models RNR** and **ARNR** feature infinite horizontal discharge patterns that allow the diffusers to accommodate different flow rate conditions. Position A (cones down) provides maximum capacity at minimum NC levels while Position B (cones up) provides higher induction and more air movement.

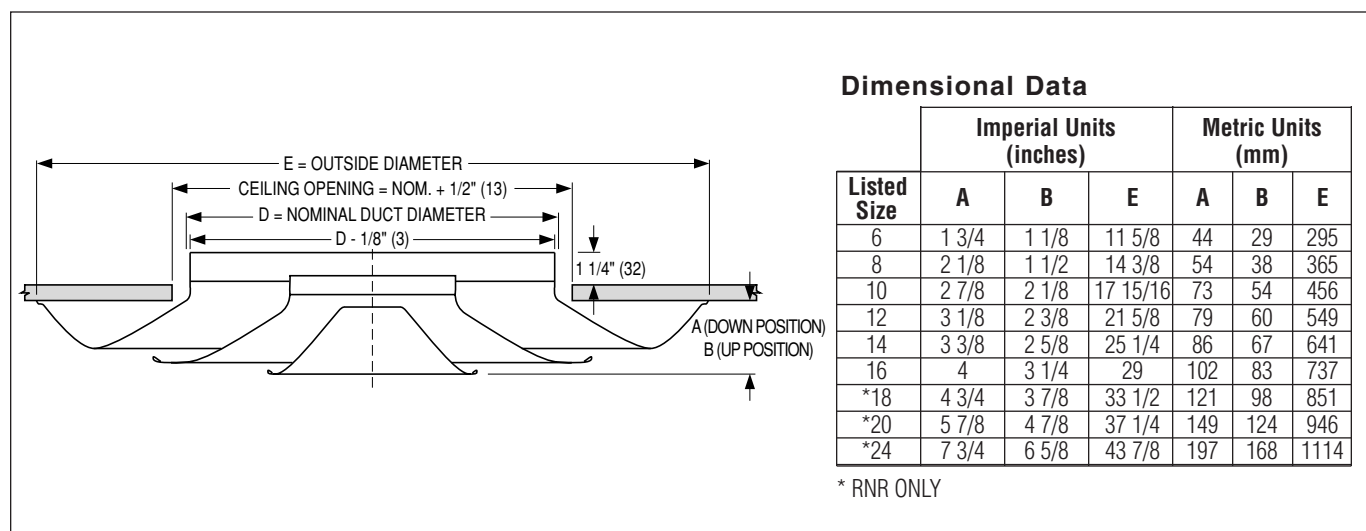
### FEATURES:

- Engineered 360° air diffusion pattern.
- High neck collars for solid connection.
- All sizes feature three cones for a uniform and balanced appearance.
- A spring clip arrangement permits quick, easy installation and removal of the inner cone assembly.

- Discharge positions are easily field set by sliding the inner cone assembly up or down. The core is securely retained by a spring loaded friction arrangement.
- Designed for both heating and cooling applications.
- Screwdriver adjustment of the optional balancing damper through the cones.

**Material:** Corrosion-resistant steel or aluminum.

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



## HOW TO SPECIFY OR TO ORDER

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

### Round Ceiling Diffusers – Models RNR and ARNR

RNR - 12 - AW - -

#### MODEL

|          |      |
|----------|------|
| Steel    | RNR  |
| Aluminum | ARNR |

#### ACCESSORIES

|                   |     |
|-------------------|-----|
| - None (default)  | —   |
| - Safety Chain    | SC  |
| - Earthquake Tabs | EQT |
| - Foam Gasket     | GK  |

#### LISTED NECK SIZE

| Imperial (inches) | Metric (mm) |
|-------------------|-------------|
| - 06              | 152         |
| - 08              | 203         |
| - 10              | 254         |
| - 12              | 305         |
| - 14              | 356         |
| - 16              | 406         |
| - 18              | 457         |
| - 20              | 508         |
| - 24              | 610         |

#### AIR BALANCING DEVICES

|                               |      |
|-------------------------------|------|
| - Radial Sliding Blade Damper | 4250 |
| - Radial Opposed Blade Damper | 4275 |
| - Butterfly Damper            | 4675 |
| - Equalizing Grid             | EGR  |
| - Damper/Equalizing Grid      | DEGR |

#### FINISH

|                             |    |
|-----------------------------|----|
| - Appliance White (default) | AW |
| - Aluminum                  | AL |
| - Special Custom Color      | SP |

D

CEILING DIFFUSERS

#### Note:

- Model RNR is available in sizes 6" - 24" (152 x 610)  
Model ARNR is available in sizes 6" - 16" (152 x 406)
- If more than one accessory is required, list in order.

#### SUGGESTED SPECIFICATION:

Furnish and install **Nailor Model** (select one) **RNR** (steel) or **ARNR** (aluminum) **Round Adjustable Ceiling Diffusers** of the sizes and capacities as shown on the plans and air distribution schedules. The diffuser shall have three round, spun cones. The inner core assembly shall be removable and slide up or down to attain infinite horizontal discharge pattern adjustment. The diffuser shall have a removable plug, for screwdriver adjustment of the optional damper, without removing the inner core. The finish shall be AW Appliance White baked enamel (optional finishes are available).

The manufacturer shall provide published performance data for the diffuser, which shall be tested in accordance with ANSI/ASHRAE Standard 70 – 1991.

## Performance Data Models RNR and ARNR

| Nominal Neck Size | Neck Velocity, FPM VP | 400     | 500     | 600     | 700      | 800      | 900      | 1000     | 1100     | 1200     |
|-------------------|-----------------------|---------|---------|---------|----------|----------|----------|----------|----------|----------|
|                   |                       | .010    | .016    | .022    | .031     | .040     | .050     | .062     | .075     | .090     |
| 6" Dia.           | TP, Position A        | .024    | .038    | .055    | .074     | .097     | .123     | .152     | .184     | .219     |
|                   | TP, Position B        | .039    | .061    | .088    | .119     | .156     | .197     | .243     | .294     | .350     |
|                   | Airflow, CFM          | 79      | 98      | 118     | 137      | 157      | 177      | 196      | 216      | 236      |
|                   | NC, Position A        | —       | —       | 15      | 20       | 24       | 28       | 31       | 34       | 37       |
|                   | NC, Position B        | —       | 16      | 21      | 26       | 30       | 34       | 37       | 40       | 43       |
|                   | T, Position A         | 2-2-4   | 2-3-5   | 2-4-5   | 3-4-6    | 3-4-7    | 3-5-8    | 4-5-8    | 4-6-9    | 4-6-10   |
|                   | T, Position B         | 3-3-5   | 3-4-6   | 3-5-6   | 4-5-7    | 4-5-8    | 4-6-9    | 5-6-9    | 5-7-10   | 5-7-12   |
| 8" Dia.           | TP, Position A        | .031    | .048    | .069    | .094     | .123     | .156     | .193     | .233     | .278     |
|                   | TP, Position B        | .049    | .077    | .111    | .151     | .198     | .250     | .309     | .374     | .445     |
|                   | Airflow, CFM          | 140     | 175     | 209     | 244      | 279      | 314      | 349      | 384      | 419      |
|                   | NC, Position A        | —       | —       | 18      | 23       | 27       | 31       | 34       | 37       | 40       |
|                   | NC, Position B        | —       | 19      | 24      | 29       | 33       | 37       | 40       | 43       | 46       |
|                   | T, Position A         | 2-3-6   | 3-4-7   | 3-5-8   | 3-5-9    | 4-6-10   | 4-7-11   | 5-8-12   | 5-9-13   | 6-9-14   |
|                   | T, Position B         | 3-4-7   | 4-5-8   | 4-6-9   | 4-6-10   | 5-7-12   | 5-8-13   | 6-9-14   | 6-10-15  | 7-10-16  |
| 10" Dia.          | TP, Position A        | .026    | .040    | .058    | .079     | .103     | .130     | .161     | .194     | .231     |
|                   | TP, Position B        | .041    | .064    | .093    | .126     | .165     | .209     | .257     | .311     | .371     |
|                   | Airflow, CFM          | 218     | 273     | 327     | 382      | 436      | 491      | 545      | 600      | 654      |
|                   | NC, Position A        | —       | —       | 17      | 22       | 26       | 30       | 33       | 36       | 39       |
|                   | NC, Position B        | —       | 18      | 23      | 28       | 32       | 36       | 39       | 42       | 45       |
|                   | T, Position A         | 3-4-7   | 3-5-8   | 4-5-9   | 4-6-10   | 4-7-12   | 5-8-13   | 5-9-14   | 6-10-16  | 7-11-17  |
|                   | T, Position B         | 4-5-9   | 4-6-10  | 5-6-11  | 5-7-12   | 5-9-14   | 6-10-15  | 6-11-16  | 7-12-18  | 8-13-19  |
| 12" Dia.          | TP, Position A        | .025    | .039    | .056    | .076     | .100     | .126     | .156     | .189     | .225     |
|                   | TP, Position B        | .040    | .063    | .090    | .123     | .160     | .203     | .250     | .303     | .360     |
|                   | Airflow, CFM          | 314     | 393     | 471     | 550      | 628      | 707      | 785      | 864      | 942      |
|                   | NC, Position A        | —       | —       | 16      | 21       | 25       | 29       | 32       | 35       | 38       |
|                   | NC, Position B        | —       | 17      | 22      | 27       | 31       | 35       | 38       | 41       | 44       |
|                   | T, Position A         | 3-5-9   | 4-6-10  | 4-7-11  | 5-8-13   | 5-8-14   | 6-10-16  | 7-11-18  | 8-12-19  | 9-13-21  |
|                   | T, Position B         | 4-6-10  | 5-7-12  | 5-8-13  | 6-9-15   | 6-10-17  | 7-12-18  | 8-13-21  | 9-14-22  | 10-15-24 |
| 14" Dia.          | TP, Position A        | .034    | .053    | .077    | .105     | .137     | .173     | .214     | .259     | .308     |
|                   | TP, Position B        | .055    | .086    | .123    | .168     | .219     | .278     | .343     | .415     | .494     |
|                   | Airflow, CFM          | 428     | 535     | 641     | 748      | 855      | 962      | 1069     | 1176     | 1283     |
|                   | NC, Position A        | —       | 16      | 22      | 27       | 31       | 35       | 38       | 41       | 44       |
|                   | NC, Position B        | —       | 22      | 27      | 32       | 36       | 40       | 43       | 46       | 49       |
|                   | T, Position A         | 4-6-10  | 4-7-12  | 5-8-14  | 6-9-16   | 7-10-18  | 8-12-20  | 9-13-22  | 10-15-24 | 10-16-26 |
|                   | T, Position B         | 5-7-11  | 5-8-14  | 6-9-16  | 7-10-18  | 8-11-20  | 9-13-22  | 10-15-25 | 11-17-27 | 12-18-30 |
| 16" Dia.          | TP, Position A        | .031    | .049    | .071    | .096     | .125     | .159     | .196     | .237     | .282     |
|                   | TP, Position B        | .050    | .079    | .113    | .154     | .201     | .254     | .314     | .380     | .452     |
|                   | Airflow, CFM          | 559     | 698     | 838     | 977      | 1117     | 1257     | 1396     | 1536     | 1676     |
|                   | NC, Position A        | —       | 15      | 21      | 25       | 29       | 33       | 36       | 39       | 42       |
|                   | NC, Position B        | —       | 19      | 24      | 29       | 33       | 37       | 40       | 43       | 46       |
|                   | T, Position A         | 4-7-12  | 5-8-14  | 6-9-16  | 7-11-18  | 8-12-20  | 9-13-22  | 10-14-24 | 11-16-26 | 12-17-28 |
|                   | T, Position B         | 5-7-13  | 6-9-16  | 7-10-18 | 8-12-20  | 9-13-22  | 10-14-24 | 11-15-26 | 12-18-29 | 13-19-31 |
| 18" Dia.          | TP, Position A        | .028    | .045    | .064    | .087     | .114     | .144     | .178     | .215     | .256     |
|                   | TP, Position B        | .046    | .071    | .103    | .140     | .183     | .231     | .286     | .346     | .411     |
|                   | Airflow, CFM          | 707     | 884     | 1060    | 1237     | 1414     | 1590     | 1767     | 1944     | 2121     |
|                   | NC, Position A        | —       | —       | 19      | 24       | 28       | 32       | 35       | 38       | 41       |
|                   | NC, Position B        | —       | 17      | 22      | 27       | 31       | 35       | 38       | 41       | 44       |
|                   | T, Position A         | 5-7-13  | 6-9-16  | 7-11-18 | 8-12-20  | 9-14-23  | 10-15-25 | 12-17-27 | 13-18-29 | 14-20-31 |
|                   | T, Position B         | 6-8-15  | 7-10-18 | 8-12-20 | 9-13-22  | 10-15-25 | 11-17-29 | 13-19-30 | 14-20-32 | 15-21-34 |
| 20" Dia.          | TP, Position A        | .028    | .044    | .063    | .086     | .112     | .142     | .175     | .212     | .252     |
|                   | TP, Position B        | .045    | .070    | .101    | .138     | .180     | .228     | .281     | .340     | .405     |
|                   | Airflow, CFM          | 873     | 1091    | 1309    | 1527     | 1745     | 1963     | 2182     | 2400     | 2618     |
|                   | NC, Position A        | —       | —       | 20      | 25       | 29       | 33       | 36       | 39       | 42       |
|                   | NC, Position B        | —       | 18      | 23      | 28       | 32       | 36       | 39       | 42       | 45       |
|                   | T, Position A         | 5-9-15  | 7-10-18 | 8-12-20 | 9-14-23  | 10-15-26 | 12-17-28 | 13-19-30 | 14-21-33 | 15-23-35 |
|                   | T, Position B         | 6-10-17 | 8-11-20 | 9-13-22 | 10-15-25 | 11-16-28 | 13-18-30 | 14-20-32 | 15-22-35 | 16-25-38 |

D

CEILING DIFFUSERS

## Performance Data

### Models RNR and ARNR

| Nominal Neck Size | Neck Velocity, FPM VP | 400     | 500     | 600      | 700      | 800      | 900      | 1000     | 1100     | 1200     |
|-------------------|-----------------------|---------|---------|----------|----------|----------|----------|----------|----------|----------|
|                   |                       | .010    | .016    | .022     | .031     | .040     | .050     | .062     | .075     | .090     |
| 24" Dia.          | TP, Position A        | .025    | .039    | .056     | .076     | .099     | .125     | .154     | .187     | .222     |
|                   | TP, Position B        | .040    | .062    | .089     | .121     | .158     | .200     | .247     | .299     | .356     |
|                   | Airflow, CFM          | 1257    | 1571    | 1885     | 2199     | 2513     | 2827     | 3142     | 3456     | 3770     |
|                   | NC, Position A        | —       | 15      | 21       | 26       | 30       | 34       | 37       | 40       | 43       |
|                   | NC, Position B        | —       | 19      | 24       | 29       | 33       | 37       | 40       | 43       | 46       |
|                   | T, Position A         | 6-10-18 | 8-12-20 | 9-14-24  | 10-16-27 | 11-17-29 | 13-20-33 | 15-22-36 | 17-25-39 | 18-27-42 |
|                   | T, Position B         | 7-11-19 | 9-13-22 | 10-16-26 | 11-18-29 | 12-19-31 | 14-22-35 | 16-24-39 | 18-27-42 | 20-30-46 |

**CFM** - cubic feet per minute

**FPM** - feet per minute velocity

**TP** - total pressure - inches w.g.

**VP** - velocity pressure - inches w.g.

**T** - throw in feet

**NC** - Noise Criteria (values) based on 10 dB room absorption, re 10<sup>-12</sup> watts.

#### Performance Notes:

1. Horizontal throws are given at 150, 100 and 50 fpm terminal velocities under isothermal conditions.

2. Performance data as shown is for ceiling mounted diffusers. For exposed duct mounting, multiply the throw values by 0.70.

3. Data derived from tests conducted in accordance with ANSI/ASHRAE Standard 70 – 1991.

| Neck Size Diameter in Inches | Ak Factor               |                       |
|------------------------------|-------------------------|-----------------------|
|                              | Position A (Cones Down) | Position B (Cones Up) |
| 6                            | 0.114                   | 0.097                 |
| 8                            | 0.163                   | 0.126                 |
| 10                           | 0.316                   | 0.245                 |
| 12                           | 0.478                   | 0.323                 |
| 14                           | 0.536                   | 0.420                 |
| 16                           | 0.758                   | 0.594                 |
| 18                           | 0.998                   | 0.761                 |
| 20                           | 1.254                   | 0.987                 |
| 24                           | 2.058                   | 1.625                 |

**D**

CEILING DIFFUSERS

## ROUND CEILING DIFFUSERS

- ADJUSTABLE HORIZONTAL / VERTICAL AIRFLOW PATTERN
- ALUMINUM

### Models:

**6300**

**Two Position Adjustment**

**6300R**

**Continuous Rotary Adjustment**



Model 6300R

The **Nailor 6300 Series Round Ceiling Diffusers** are available in a comprehensive range of sizes with a capacity ranging from 50 to 5000 cfm (24 – 2360 l/s). They are suitable for both cooling and heating applications. With three concentric cones in all sizes they offer the same balanced appearance when different sizes are used in the same zone. They feature a 360° air diffusion pattern and provide excellent performance in variable air volume systems.

**Model 6300** is fixed in either an "UP" or a "DOWN" position that is easily adjusted by lifting and rotating the center core. An optional round opposed blade damper is screwdriver-operated through the face of the unit. The **Model 6300** has a 2-position core to guide vertical or horizontal projection of the air.

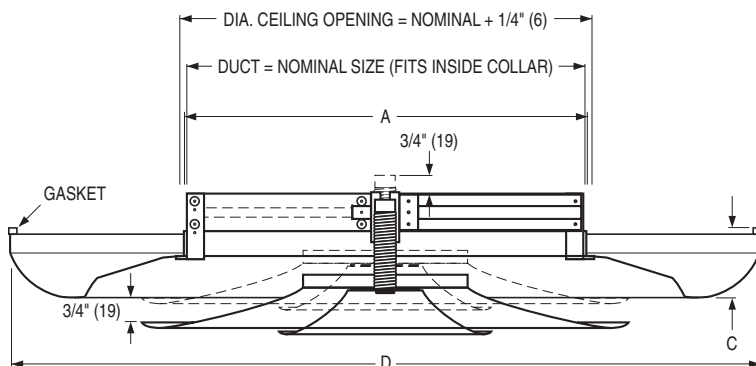
**Model 6300R** provides 3/4" (19) adjustability through utilization of a threaded mechanism. The "UP" position of the core provides vertical throw, and the "DOWN" position provides horizontal throw. The core is easily adjusted by rotating the center cone. An optional round opposed blade damper is screwdriver-operated through the face of the unit. The **Model 6300R** has a fully adjustable core to guide vertical or horizontal projection of the air.

**Material:** Spun aluminum.

**Finish:** AW Appliance White finish (standard).  
AL Aluminum (option).

D

CEILING DIFFUSERS



**6300R**

### Notes:

- 1/4" (6) oversize duct fits outside collar, if desired.
- A = Inside diameter of diffuser neck.
- C = Projection of diffuser outer cone below ceiling.
- D = Overall diameter of diffuser.

### Dimensional Data

| Listed Size | Imperial Units (inches) |         |        | Metric Units (mm) |    |      |
|-------------|-------------------------|---------|--------|-------------------|----|------|
|             | A                       | C       | D      | A                 | C  | D    |
| 6           | 6 1/8                   | 3/4     | 12 1/8 | 156               | 19 | 308  |
| 8           | 8 1/8                   | 1       | 15 1/2 | 206               | 25 | 394  |
| 10          | 10 1/8                  | 1 1/4   | 18 7/8 | 257               | 32 | 479  |
| 12          | 12 1/8                  | 1 3/8   | 22 1/4 | 308               | 35 | 565  |
| 14          | 14 1/8                  | 1 9/16  | 25 5/8 | 358               | 40 | 651  |
| 16          | 16 1/8                  | 1 3/4   | 29     | 410               | 44 | 737  |
| 18          | 18 1/8                  | 1 15/16 | 32 3/8 | 460               | 49 | 822  |
| 20          | 20 1/8                  | 2 1/8   | 35 3/4 | 511               | 54 | 908  |
| 24          | 24 1/8                  | 2 1/2   | 42 1/2 | 613               | 64 | 1080 |



## HOW TO SPECIFY OR TO ORDER

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

### Aluminum Round Ceiling Diffusers – Model Series 6300

6300R - 12 - AW - -

#### MODEL

Aluminum:

- Two Position 6300
- Rotating Fully Adjustable 6300R

#### ACCESSORIES

- None (default) —
- Safety Chain SC

#### AIR BALANCING DEVICES

- Radial Opposed Blade Damper 4275
- Equalizing Grid EGR
- Damper/Equalizing Grid DEGR

#### FINISH

- Appliance White (default) AW
- Aluminum AL
- Special Custom Color SP

#### LISTED NECK SIZE

| Imperial (inches) | Metric (mm) |
|-------------------|-------------|
| - 06              | 152         |
| - 08              | 203         |
| - 10              | 254         |
| - 12              | 305         |
| - 14              | 356         |
| - 16              | 406         |
| - 18              | 457         |
| - 20              | 508         |
| - 24              | 610         |

D

CEILING DIFFUSERS

#### Note:

1. If more than one accessory is required, list in order.

#### SUGGESTED SPECIFICATION:

##### 6300 – Two Position

Furnish and install **Nailor Model 6300 Aluminum 2-Position Round Ceiling Diffusers** of the sizes and capacities as shown on the plans and air distribution schedules. The diffuser shall be all aluminum construction and incorporate three round cones that have been spun. A fixed, two-position core shall be easily adjusted either in an up or down position. The diffuser shall have a removable plug for screwdriver adjustment of the optional damper without removing the inner core. The finish shall be AW Appliance White baked enamel (optional finishes are available).

The manufacturer shall provide published performance data for the diffuser, which shall be tested in accordance with ANSI/ASHRAE Standard 70 – 1991.

##### 6300R – Rotating Fully Adjustable

Furnish and install **Nailor Model 6300R Aluminum Adjustable Round Ceiling Diffusers** of the sizes and capacities as shown on the plans and air distribution schedules. The diffuser shall be all aluminum construction and incorporate three round cones that have been spun. The diffuser shall be easily adjusted by rotating the inner core either in an up or down position. The diffuser shall have a removable plug for screwdriver adjustment of the optional damper without removing the inner core. The finish shall be AW Appliance White baked enamel (optional finishes are available).

The manufacturer shall provide published performance data for the diffuser, which shall be tested in accordance with ANSI/ASHRAE Standard 70 – 1991.

## Performance Data

### Models 6300 and 6300R

| Listed Neck Size | Neck Velocity, FPM VP | 400<br>.010 | 500<br>.016 | 600<br>.023 | 700<br>.031 | 800<br>.040 | 900<br>.051 | 1000<br>.063 | 1200<br>.090 | 1400<br>.122 | 1600<br>.160 |
|------------------|-----------------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------|--------------|--------------|--------------|
| <b>6</b>         | TP                    | .024        | .037        | .056        | .071        | .092        | .112        | .138         | .197         | .272         | .345         |
|                  | Airflow, CFM          | <b>80</b>   | <b>100</b>  | <b>120</b>  | <b>140</b>  | <b>160</b>  | <b>180</b>  | <b>200</b>   | <b>235</b>   | <b>275</b>   | <b>315</b>   |
|                  | RD                    | 2-5         | 3-5         | 4-6         | 4-7         | 5-7         | 6-8         | 6-9          | 6-9          | 7-10         | 7-10         |
|                  | NC                    | —           | —           | 12          | 17          | 21          | 25          | 28           | 34           | 39           | 41           |
| <b>8</b>         | TP                    | .033        | .049        | .068        | .095        | .122        | .155        | .192         | .270         | .362         | .470         |
|                  | Airflow, CFM          | <b>140</b>  | <b>175</b>  | <b>210</b>  | <b>245</b>  | <b>280</b>  | <b>315</b>  | <b>350</b>   | <b>420</b>   | <b>490</b>   | <b>560</b>   |
|                  | RD                    | 3-7         | 4-8         | 5-8         | 6-9         | 7-10        | 8-10        | 9-11         | 8-12         | 9-13         | 10-14        |
|                  | NC                    | —           | —           | 14          | 19          | 23          | 27          | 30           | 36           | 41           | 44           |
| <b>10</b>        | TP                    | .041        | .062        | .098        | .121        | .157        | .200        | .245         | .350         | .477         | .610         |
|                  | Airflow, CFM          | <b>220</b>  | <b>270</b>  | <b>330</b>  | <b>380</b>  | <b>435</b>  | <b>490</b>  | <b>545</b>   | <b>655</b>   | <b>765</b>   | <b>870</b>   |
|                  | RD                    | 4-9         | 5-10        | 7-11        | 8-11        | 9-12        | 9-13        | 10-14        | 11-15        | 11-16        | 12-17        |
|                  | NC                    | —           | 10          | 16          | 21          | 25          | 29          | 32           | 38           | 43           | 46           |
| <b>12</b>        | TP                    | .043        | .066        | .093        | .127        | .165        | .206        | .249         | .355         | .482         | .620         |
|                  | Airflow, CFM          | <b>315</b>  | <b>390</b>  | <b>470</b>  | <b>550</b>  | <b>630</b>  | <b>705</b>  | <b>785</b>   | <b>940</b>   | <b>1100</b>  | <b>1255</b>  |
|                  | RD                    | 5-10        | 7-12        | 8-13        | 9-14        | 10-15       | 11-16       | 12-16        | 13-18        | 14-19        | 15-21        |
|                  | NC                    | —           | 12          | 18          | 23          | 27          | 31          | 34           | 40           | 45           | 48           |
| <b>14</b>        | TP                    | .041        | .061        | .087        | .118        | .150        | .190        | .337         | .325         | .442         | .560         |
|                  | Airflow, CFM          | <b>425</b>  | <b>530</b>  | <b>635</b>  | <b>745</b>  | <b>850</b>  | <b>955</b>  | <b>1060</b>  | <b>1270</b>  | <b>1490</b>  | <b>1695</b>  |
|                  | RD                    | 6-13        | 8-14        | 10-15       | 11-16       | 12-17       | 13-19       | 14-19        | 15-21        | 16-22        | 17-24        |
|                  | NC                    | —           | 15          | 21          | 26          | 30          | 34          | 37           | 43           | 48           | 51           |
| <b>16</b>        | TP                    | .043        | .060        | .093        | .127        | .153        | .206        | .252         | .350         | .482         | .580         |
|                  | Airflow, CFM          | <b>560</b>  | <b>700</b>  | <b>840</b>  | <b>980</b>  | <b>1120</b> | <b>1260</b> | <b>1400</b>  | <b>1680</b>  | <b>1960</b>  | <b>2240</b>  |
|                  | RD                    | 6-12        | 7-13        | 9-15        | 10-16       | 12-17       | 13-18       | 13-18        | 14-20        | 16-22        | 18-24        |
|                  | NC                    | —           | 16          | 22          | 27          | 31          | 35          | 38           | 44           | 49           | 52           |
| <b>18</b>        | TP                    | .044        | .068        | .097        | .130        | .167        | .214        | .253         | .370         | .492         | .630         |
|                  | Airflow, CFM          | <b>710</b>  | <b>885</b>  | <b>1060</b> | <b>1240</b> | <b>1420</b> | <b>1590</b> | <b>1770</b>  | <b>2120</b>  | <b>2480</b>  | <b>2830</b>  |
|                  | RD                    | 7-16        | 10-18       | 12-19       | 14-21       | 16-22       | 17-23       | 18-24        | 19-27        | 21-29        | 22-31        |
|                  | NC                    | —           | 17          | 23          | 28          | 32          | 36          | 39           | 45           | 50           | 53           |
| <b>20</b>        | TP                    | .045        | .069        | .099        | .135        | .170        | .215        | .262         | .375         | .512         | .645         |
|                  | Airflow, CFM          | <b>875</b>  | <b>1100</b> | <b>1310</b> | <b>1530</b> | <b>1750</b> | <b>1970</b> | <b>2190</b>  | <b>2610</b>  | <b>3060</b>  | <b>3500</b>  |
|                  | RD                    | 8-18        | 11-19       | 14-21       | 15-23       | 17-24       | 18-26       | 19-27        | 21-30        | 23-32        | 24-34        |
|                  | NC                    | 10          | 18          | 24          | 29          | 33          | 37          | 40           | 46           | 51           | 54           |
| <b>24</b>        | TP                    | .043        | .066        | .095        | .131        | .170        | .215        | .267         | .360         | .407         | .660         |
|                  | Airflow, CFM          | <b>1260</b> | <b>1570</b> | <b>1880</b> | <b>2200</b> | <b>2510</b> | <b>2820</b> | <b>3140</b>  | <b>3770</b>  | <b>4400</b>  | <b>5020</b>  |
|                  | RD                    | 10-21       | 13-23       | 16-25       | 18-28       | 21-29       | 22-31       | 25-36        | 25-36        | 28-39        | 29-42        |
|                  | NC                    | 12          | 19          | 25          | 30          | 34          | 38          | 41           | 47           | 52           | 55           |

**CFM** - cubic feet per minute

**FPM** - feet per minute velocity

**TP** - total pressure - inches w.g.

**VP** - velocity pressure - inches w.g.

**RD** - radius of diffusion in feet, isothermal

**NC** - Noise Criteria (values) based on 10 dB room absorption, re 10<sup>-12</sup> watts.

#### Performance Notes:

1. Radius of diffusion values are given at 100 and 50 fpm terminal velocities under isothermal conditions.

2. Performance data as shown is for the diffuser only, with the cones in the "down" position. Performance for the cones in the "up" position can be approximated by multiplying the total pressures by 1.6, adding 5 NC to the sound levels, and multiplying the radius of diffusion by .90.

3. Data derived from tests conducted in accordance with ANSI/ASHRAE Standard 70 – 1991.

| Listed Size | Ak Factor |
|-------------|-----------|
| <b>6</b>    | .120      |
| <b>8</b>    | .200      |
| <b>10</b>   | .310      |
| <b>12</b>   | .440      |
| <b>14</b>   | .570      |
| <b>16</b>   | .785      |
| <b>18</b>   | .990      |
| <b>20</b>   | 1.220     |
| <b>24</b>   | 1.770     |

## ROUND CEILING DIFFUSERS

- ARCHITECTURAL PLAQUE FACE
- ADJUSTABLE HORIZONTAL PATTERN
- ALUMINUM FACE

**Model:**  
**R-UNI**



Model R-UNI

The **Nailor Model R-UNI Round Plaque Ceiling Air Diffuser** has been designed to provide both the appearance required for architectural excellence as well as high engineering performance. These diffusers are suitable for both architectural ceilings and exposed duct applications.

The diffusers deliver the air in a true 360° air pattern and provide excellent performance in variable air volume systems. The discharge setting is simply adjusted by sliding the inner face plaque assembly up or down. The diffuser provides higher induction and more air movement in the higher position while maximum capacity at minimum NC levels can be obtained in the lower position.

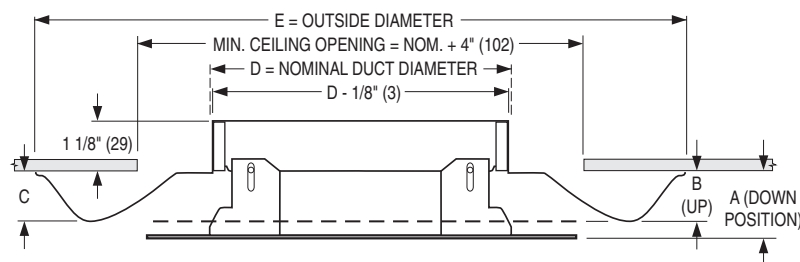
### FEATURES:

- Smooth heavy duty face plaque is 1/8" (0.125) thick aluminum for strength and lightness.
- A spring clip arrangement permits quick, easy installation and removal of the inner cone assembly.
- The core is retained by a spring loaded friction arrangement. There are no screws to reposition.
- An optional radial opposed blade damper with an operating arm to adjust the damper without removing the core is available.
- Available for duct sizes 6" – 16" (152 – 406) diameter.
- High neck collars for solid connection.

**Material:** Corrosion-resistant steel outer cone and bracketry with an aluminum face.

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

### Dimensional Data



| Listed Size | Imperial Units (inches) |         |          | Metric Units (mm) |    |     |
|-------------|-------------------------|---------|----------|-------------------|----|-----|
|             | A                       | C       | E        | A                 | C  | E   |
| 6           | 1 1/4                   | 1       | 14 3/8   | 32                | 25 | 365 |
| 8           | 1 7/16                  | 1 1/4   | 17 15/16 | 37                | 32 | 456 |
| 10          | 1 7/8                   | 1 1/2   | 21 5/8   | 48                | 38 | 549 |
| 12          | 2 1/8                   | 1 11/16 | 25 1/4   | 54                | 43 | 641 |
| 14          | 2 3/8                   | 2       | 29       | 60                | 51 | 737 |
| 16          | 2 3/4                   | 2 1/4   | 33 1/2   | 70                | 57 | 851 |

## HOW TO SPECIFY OR TO ORDER

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

### Round Plaque Ceiling Diffusers – Model Series R-UNI

|                                           |                    |                                 |         |
|-------------------------------------------|--------------------|---------------------------------|---------|
|                                           |                    | <b>R-UNI - 12 - AW - -</b>      |         |
| <b>MODEL</b>                              |                    | <b>ACCESSORIES</b>              |         |
| Plaque Face Adjustable (Horizontal) R-UNI |                    | - None (default)                | —       |
|                                           |                    | - Safety Chain                  | SC      |
|                                           |                    | - Earthquake Tabs               | EQT     |
|                                           |                    | - Foam Gasket                   | GK      |
| <b>LISTED NECK SIZE</b>                   |                    | <b>AIR BALANCING DEVICES</b>    |         |
| <b>Imperial (inches)</b>                  | <b>Metric (mm)</b> | - Radial Opposed Blade Damper   | 4275    |
| - 06                                      | 152                | - Radial OBD with Operating Arm | 4275-OA |
| - 08                                      | 203                | - Butterfly Damper              | 4675    |
| - 10                                      | 254                | - Equalizing Grid               | EGR     |
| - 12                                      | 305                | - Damper/Equalizing Grid        | DEGR    |
| - 14                                      | 356                | <b>FINISH</b>                   |         |
| - 16                                      | 406                | - Appliance White (default)     | AW      |
|                                           |                    | - Aluminum                      | AL      |
|                                           |                    | - Special Custom Color          | SP      |

**D**

**CEILING DIFFUSERS**

#### Note:

1. If more than one accessory is required, list in order.

#### SUGGESTED SPECIFICATION:

Furnish and install **Nailor Model R-UNI Round Architectural Plaque Face Ceiling Diffusers** of the sizes and capacities as shown on the plans and air distribution schedules. The diffuser shall have a round outer cone that is spun from corrosion-resistant steel. The inner core shall have a round plaque face that is heavy gauge aluminum, and shall be smooth and flat in appearance. A removable inner core assembly shall slide up or down to attain infinite horizontal discharge patterns. The finish shall be AW Appliance White baked enamel (optional finishes are available).

The manufacturer shall provide published performance data for the diffuser, which shall be tested in accordance with ANSI/ASHRAE Standard 70 – 1991.

## Performance Data

### Model R-UNI

| Nominal Neck Size | Neck Velocity, fpm | 400    | 500     | 600     | 700      | 800      | 900      | 1000     | 1200     | 1400     | 1600     |
|-------------------|--------------------|--------|---------|---------|----------|----------|----------|----------|----------|----------|----------|
|                   | Velocity Pressure  | .010   | .016    | .022    | .031     | .040     | .050     | .062     | .090     | .122     | .160     |
| 6" Dia.           | Total Pressure     | .034   | .053    | .076    | .103     | .134     | .169     | .209     | .300     | .407     | .531     |
|                   | Airflow, cfm       | 79     | 98      | 118     | 137      | 157      | 177      | 196      | 236      | 275      | 314      |
|                   | Throw              | 1-2-3  | 2-2-5   | 2-3-7   | 3-4-9    | 3-5-10   | 4-6-12   | 4-7-13   | 6-9-14   | 7-11-15  | 8-13-17  |
|                   | NC                 | —      | —       | —       | —        | 16       | 21       | 24       | 30       | 36       | 41       |
| 8" Dia.           | Total Pressure     | .033   | .052    | .075    | .104     | .136     | .174     | .216     | .315     | .432     | .569     |
|                   | Airflow, cfm       | 140    | 175     | 209     | 244      | 279      | 314      | 349      | 419      | 489      | 559      |
|                   | Throw              | 1-2-3  | 2-2-5   | 2-3-8   | 3-4-10   | 3-5-12   | 4-7-13   | 4-8-15   | 6-11-17  | 7-14-19  | 9-18-21  |
|                   | NC                 | —      | —       | —       | —        | 17       | 21       | 25       | 33       | 40       | 46       |
| 10" Dia.          | Total Pressure     | .048   | .074    | .106    | .143     | .185     | .232     | .285     | .405     | .546     | .707     |
|                   | Airflow, cfm       | 218    | 273     | 327     | 382      | 436      | 491      | 545      | 654      | 764      | 873      |
|                   | Throw              | 1-2-5  | 2-2-6   | 2-3-8   | 3-4-10   | 3-6-13   | 4-8-13   | 5-9-14   | 6-15-20  | 8-16-21  | 10-19-22 |
|                   | NC                 | —      | —       | —       | —        | 15       | 20       | 23       | 28       | 34       | 37       |
| 12" Dia.          | Total Pressure     | .047   | .073    | .104    | .141     | .184     | .233     | .287     | .411     | .558     | .727     |
|                   | Airflow, cfm       | 314    | 393     | 471     | 550      | 628      | 707      | 785      | 942      | 1100     | 1257     |
|                   | Throw              | 2-4-9  | 2-6-11  | 3-7-13  | 4-8-14   | 5-9-15   | 6-10-17  | 7-11-18  | 9-13-19  | 12-15-21 | 14-18-22 |
|                   | NC                 | —      | —       | —       | —        | 17       | 20       | 22       | 28       | 33       | 37       |
| 14" Dia.          | Total Pressure     | .051   | .080    | .116    | .159     | .209     | .265     | .328     | .476     | .651     | .854     |
|                   | Airflow, cfm       | 428    | 535     | 641     | 748      | 855      | 962      | 1069     | 1283     | 1497     | 1710     |
|                   | Throw              | 4-7-14 | 5-9-16  | 6-10-17 | 7-12-18  | 9-13-20  | 10-14-21 | 11-15-21 | 14-18-23 | 17-20-24 | 20-22-25 |
|                   | NC                 | —      | —       | 16      | 20       | 24       | 28       | 36       | 43       | 49       | 54       |
| 16" Dia.          | Total Pressure     | .058   | .090    | .130    | .177     | .232     | .293     | .362     | .522     | .711     | .929     |
|                   | Airflow, cfm       | 559    | 698     | 838     | 977      | 1117     | 1257     | 1396     | 1676     | 1955     | 2234     |
|                   | Throw              | 6-8-12 | 7-10-16 | 9-12-18 | 10-14-21 | 12-15-23 | 13-17-25 | 14-19-26 | 17-22-29 | 20-25-31 | 22-28-33 |
|                   | NC                 | —      | —       | —       | —        | 15       | 19       | 25       | 30       | 35       | 41       |

#### Performance Notes:

1. All pressures are in inches w.g.. To obtain static pressure, subtract the velocity pressure from the total pressure.
2. Throws are given at 150, 100 and 50 fpm terminal velocities, under isothermal conditions.

3. NC (Noise Criteria) values are based on 10 dB room absorption, re 10<sup>-12</sup> watts. Dash (—) in spaces indicates an NC level of less than 15.
4. Data derived from tests conducted in accordance with ANSI/ASHRAE Standard 70 – 1991.

#### Balancing:

It is recommended that a commercially available 'Flow Hood' is used for field balancing. The airflow meter directly reads average flow rate with great accuracy at all volumes. It is a much faster and more accurate alternative to time consuming multiple velocity readings, eliminating the use of Ak factors and the calculations required to convert the average velocity into airflow.

## ROUND DOWNBLAST DIFFUSER

- HEAVY DUTY
- ADJUSTABLE VERTICAL TO HORIZONTAL DISCHARGE PATTERN
- "FIBONACCI SPIRAL"

**Model:**

**RDB Steel**



Model RDB

The **Nailor Model RDB Round Downblast Diffusers** have been designed for industrial and commercial applications. The unique contemporary design features a "Fibonacci spiral" adjustable aperture. The discharge pattern can be adjusted from full horizontal to full vertical. At the full vertical setting, the diffuser forces approximately 75% of the air in a long downward projection. This results in effective spot cooling or heating from high mounting locations.

This style of diffuser is suitable for theaters, auditoriums, factories, warehouses, convention halls, coliseums, shopping malls and other applications where ceilings are high and conditions are variable.

### FEATURES:

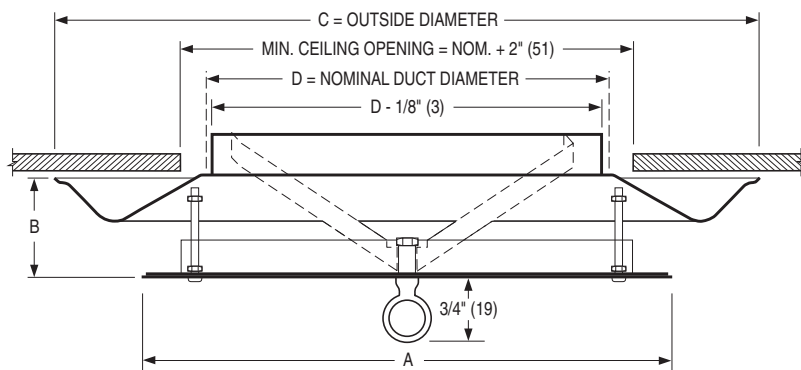
- Unique "Fibonacci spiral" adjustable aperture damper.
- Horizontal mode provides a uniform 360° discharge pattern.
- Vertical setting provides effective spot cooling or heating in high mounting locations.
- Included is an easily adjustable ring operator that allows for pole adjustment.
- High neck collars for solid connection.
- Optional round opposed blade damper is screwdriver operated and adjusted through the aperture.

**Material:** Heavy gauge corrosion-resistant steel.

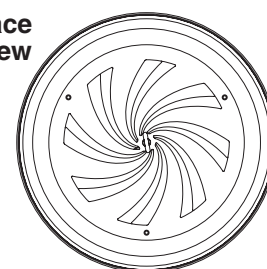
**Finish:** AW Appliance White baked enamel finish is standard. Other finishes are available.

**D**

**CEILING DIFFUSERS**



**Face View**



### Dimensional Data

| Listed Size D | Imperial Units (inches) |        |          | Metric Units (mm) |     |      |
|---------------|-------------------------|--------|----------|-------------------|-----|------|
|               | A                       | B      | C        | A                 | B   | C    |
| 8             | 11 11/16                | 2 1/4  | 14 3/8   | 297               | 57  | 365  |
| 10            | 14                      | 2 9/16 | 17 15/16 | 356               | 65  | 456  |
| 12            | 16 1/4                  | 3      | 21 5/8   | 413               | 76  | 549  |
| 14            | 18 5/8                  | 3 3/8  | 25 1/4   | 473               | 86  | 641  |
| 16            | 20 7/8                  | 4      | 29       | 530               | 102 | 737  |
| 18            | 23 1/4                  | 4 1/2  | 33 1/2   | 591               | 114 | 851  |
| 20            | 25 1/2                  | 5 7/16 | 37 1/4   | 648               | 138 | 946  |
| 24            | 30 3/16                 | 6 1/2  | 43 7/8   | 767               | 165 | 1114 |

## HOW TO SPECIFY OR TO ORDER

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

### Round Downblast Ceiling Diffusers – Model Series RDB

**RDB - 12 - AW - -**

#### MODEL

Round Downblast

RDB

#### LISTED NECK SIZE

| Imperial (inches) | Metric (mm) |
|-------------------|-------------|
| - 08              | 203         |
| - 10              | 254         |
| - 12              | 305         |
| - 14              | 356         |
| - 16              | 406         |
| - 18              | 457         |
| - 20              | 508         |
| - 24              | 610         |

#### ACCESSORIES

|                   |     |
|-------------------|-----|
| - None (default)  | —   |
| - Earthquake Tabs | EQT |
| - Foam Gasket     | GK  |

#### AIR BALANCING DEVICES

|                               |      |
|-------------------------------|------|
| - Radial Opposed Blade Damper | 4275 |
| - Radial Sliding Damper       | 4250 |
| - Butterfly Damper            | 4675 |
| - Equalizing Grid             | EGR  |
| - Damper/Equalizing Grid      | DEGR |

#### FINISH

|                             |    |
|-----------------------------|----|
| - Appliance White (default) | AW |
| - Aluminum                  | AL |
| - Special Custom Color      | SP |

**D**

**CEILING DIFFUSERS**

#### Note:

1. If more than one accessory is required, list in order.

#### SUGGESTED SPECIFICATION:

Furnish and install **Nailor Model RDB Round Downblast Ceiling Diffusers** of the sizes and capacities as shown on the plans and air distribution schedules. The diffuser shall be constructed of heavy gauge corrosion-resistant spun steel and incorporate a round outer cone. A removable flat inner cone assembly shall have a "Fibonacci spiral" aperture damper that is adjusted by a ring (pole) operator, which extends below the face of the diffuser. The finish shall be AW Appliance White baked enamel (optional finishes are available).

The manufacturer shall provide published performance data for the diffuser, which shall be tested in accordance with ANSI/ASHRAE Standard 70 – 1991.



## Performance Data

### Model RDB

| Nominal Neck | Neck Velocity, FPM    | 400      | 500      | 600      | 700      | 800      | 900      | 1000     | 1200     | 1400     | 1600     |
|--------------|-----------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
|              | Velocity Pressure     | 0.010    | 0.016    | 0.022    | 0.031    | 0.040    | 0.050    | 0.062    | 0.090    | 0.122    | 0.160    |
| 8" Dia.      | Airflow, CFM          | 140      | 175      | 209      | 244      | 279      | 314      | 349      | 419      | 489      | 559      |
|              | Total Pressure Horiz. | 0.027    | 0.042    | 0.062    | 0.073    | 0.115    | 0.140    | 0.175    | 0.258    | 0.335    | 0.421    |
|              | Total Pressure Vert.  | 0.014    | 0.024    | 0.035    | 0.049    | 0.053    | 0.071    | 0.088    | 0.122    | 0.176    | 0.235    |
|              | NC Horiz.             | —        | —        | —        | 21       | 23       | 25       | 31       | 33       | 37       | 39       |
|              | NC Vert.              | —        | —        | —        | —        | —        | —        | 20       | 22       | 28       | 31       |
|              | Throw Horiz.          | 0-1-2    | 1-2-4    | 1-2-5    | 1-2-7    | 1-3-9    | 2-4-10   | 2-4-11   | 3-5-12   | 4-6-13   | 6-7-15   |
| 10" Dia.     | Throw Vert.           | 8        | 10       | 16       | 19       | 24       | 31       | 34       | 37       | 43       | 48       |
|              | Airflow, CFM          | 218      | 273      | 327      | 382      | 436      | 491      | 545      | 654      | 764      | 873      |
|              | Total Pressure Horiz. | 0.036    | 0.056    | 0.082    | 0.111    | 0.145    | 0.185    | 0.230    | 0.335    | 0.462    | 0.570    |
|              | Total Pressure Vert.  | 0.016    | 0.026    | 0.037    | 0.051    | 0.066    | 0.083    | 0.103    | 0.149    | 0.204    | 0.265    |
|              | NC Horiz.             | —        | —        | —        | —        | 21       | 23       | 27       | 33       | 39       | 41       |
|              | NC Vert.              | —        | —        | —        | —        | —        | —        | 20       | 25       | 32       | 35       |
| 12" Dia.     | Throw Horiz.          | 0-1-3    | 1-2-5    | 1-2-7    | 1-3-8    | 2-4-10   | 2-4-11   | 3-5-12   | 4-7-13   | 6-8-15   | 7-10-16  |
|              | Throw Vert.           | 12       | 13       | 22       | 26       | 29       | 34       | 37       | 40       | 48       | 50       |
|              | Airflow, CFM          | 314      | 393      | 471      | 550      | 628      | 707      | 785      | 942      | 1100     | 1257     |
|              | Total Pressure Horiz. | 0.047    | 0.073    | 0.107    | 0.149    | 0.195    | 0.245    | 0.307    | 0.445    | 0.612    | 0.800    |
|              | Total Pressure Vert.  | 0.018    | 0.029    | 0.042    | 0.058    | 0.076    | 0.095    | 0.118    | 0.170    | 0.232    | 0.305    |
|              | NC Horiz.             | —        | —        | —        | 33       | 27       | 31       | 35       | 39       | 43       | 46       |
| 14" Dia.     | NC Vert.              | —        | —        | —        | —        | —        | 22       | 25       | 28       | 33       | 37       |
|              | Throw Horiz.          | 3-6-11   | 4-7-13   | 5-8-15   | 6-10-17  | 7-11-18  | 8-12-19  | 9-13-20  | 12-16-22 | 15-18-23 | 18-20-25 |
|              | Throw Vert.           | 15       | 17       | 28       | 36       | 46       | 50       | 55       | 60       | 67       | 75       |
|              | Airflow, CFM          | 428      | 535      | 641      | 748      | 855      | 962      | 1069     | 1283     | 1497     | 1710     |
|              | Total Pressure Horiz. | 0.039    | 0.062    | 0.090    | 0.127    | 0.165    | 0.209    | 0.262    | 0.380    | 0.542    | 0.700    |
|              | Total Pressure Vert.  | 0.016    | 0.027    | 0.038    | 0.054    | 0.070    | 0.088    | 0.111    | 0.162    | 0.224    | 0.295    |
| 16" Dia.     | NC Horiz.             | —        | —        | —        | —        | 22       | 25       | 29       | 37       | 46       | 52       |
|              | NC Vert.              | —        | —        | —        | —        | —        | —        | 22       | 29       | 35       | 38       |
|              | Throw Horiz.          | 1-6-12   | 2-7-14   | 3-8-16   | 4-10-17  | 5-11-18  | 7-12-19  | 8-13-20  | 11-16-22 | 15-18-23 | 19-21-25 |
|              | Throw Vert.           | 21       | 25       | 31       | 39       | 48       | 53       | 57       | 63       | 70       | 89       |
|              | Airflow, CFM          | 559      | 698      | 838      | 977      | 1117     | 1257     | 1396     | 1676     | 1955     | 2234     |
|              | Total Pressure Horiz. | 0.053    | 0.069    | 0.110    | 0.181    | 0.232    | 0.292    | 0.367    | 0.535    | 0.737    | 0.965    |
| 18" Dia.     | Total Pressure Vert.  | 0.020    | 0.032    | 0.045    | 0.061    | 0.083    | 0.104    | 0.132    | 0.189    | 0.261    | 0.342    |
|              | NC Horiz.             | —        | —        | —        | 22       | 25       | 31       | 37       | 42       | 46       | 52       |
|              | NC Vert.              | —        | —        | —        | —        | —        | 22       | 27       | 35       | 39       | 41       |
|              | Throw Horiz.          | 6-10-18  | 7-11-20  | 7-13-21  | 8-16-22  | 9-17-24  | 11-19-25 | 13-20-26 | 14-21-27 | 15-22-28 | 16-23-29 |
|              | Throw Vert.           | 25       | 27       | 34       | 41       | 50       | 55       | 59       | 67       | 85       | 94       |
|              | Airflow, CFM          | 707      | 884      | 1060     | 1237     | 1414     | 1590     | 1767     | 2121     | 2474     | 2827     |
| 20" Dia.     | Total Pressure Horiz. | 0.071    | 0.114    | 0.162    | 0.226    | 0.300    | 0.375    | 0.472    | 0.690    | 0.942    | 1.230    |
|              | Total Pressure Vert.  | 0.023    | 0.037    | 0.053    | 0.073    | 0.096    | 0.120    | 0.150    | 0.217    | 0.298    | 0.390    |
|              | NC Horiz.             | —        | —        | 22       | 34       | 37       | 41       | 44       | 52       | 57       | 62       |
|              | NC Vert.              | —        | —        | —        | —        | —        | 24       | 27       | 33       | 37       | 41       |
|              | Throw Horiz.          | 8-13-21  | 10-14-22 | 11-16-23 | 12-17-24 | 14-18-25 | 15-19-26 | 16-20-27 | 18-22-28 | 21-23-29 | 23-25-30 |
|              | Throw Vert.           | 29       | 34       | 39       | 44       | 55       | 57       | 63       | 74       | 85       | 100      |
| 24" Dia.     | Airflow, CFM          | 873      | 1091     | 1309     | 1527     | 1745     | 1963     | 2182     | 2618     | 3054     | 3491     |
|              | Total Pressure Horiz. | 0.074    | 0.116    | 0.162    | 0.221    | 0.289    | 0.365    | 0.442    | 0.630    | 0.862    | 1.120    |
|              | Total Pressure Vert.  | 0.022    | 0.035    | 0.050    | 0.069    | 0.090    | 0.115    | 0.142    | 0.206    | 0.284    | 0.373    |
|              | NC Horiz.             | —        | 25       | 31       | 34       | 38       | 42       | 45       | 53       | 58       | 62       |
|              | NC Vert.              | —        | —        | —        | —        | 23       | 27       | 31       | 36       | 42       | 46       |
|              | Throw Horiz.          | 10-14-20 | 12-16-23 | 14-19-26 | 16-21-29 | 18-23-31 | 20-25-32 | 22-27-34 | 25-30-37 | 29-34-39 | 32-37-41 |
| 24" Dia.     | Throw Vert.           | 36       | 42       | 48       | 53       | 58       | 63       | 69       | 81       | 90       | 105      |
|              | Airflow, CFM          | 1257     | 1571     | 1885     | 2199     | 2513     | 2827     | 3142     | 3770     | 4398     | 5027     |
|              | Total Pressure Horiz. | 0.047    | 0.073    | 0.104    | 0.141    | 0.182    | 0.229    | 0.281    | 0.400    | 0.540    | 0.700    |
|              | Total Pressure Vert.  | 0.010    | 0.016    | 0.022    | 0.030    | 0.040    | 0.050    | 0.062    | 0.090    | 0.122    | 0.159    |
|              | NC Horiz.             | 25       | 30       | 34       | 36       | 42       | 47       | 53       | 62       | 70       | 73       |
|              | NC Vert.              | —        | —        | —        | 24       | 27       | 33       | 38       | 44       | 47       | 51       |
| 24" Dia.     | Throw Horiz.          | 12-16-22 | 14-19-26 | 17-21-30 | 18-23-32 | 20-25-33 | 23-27-36 | 25-31-37 | 29-35-40 | 33-38-42 | 34-40-47 |
|              | Throw Vert.           | 43       | 47       | 50       | 58       | 64       | 69       | 87       | 95       | 99       | 113      |

#### Performance Notes:

1. All pressures are in inches w.g.. To obtain static pressure, subtract the velocity pressure from the total pressure.
2. Horizontal throws are given at 150, 100 and 50 fpm terminal velocities under isothermal conditions with the face fully closed.
3. Vertical throw (projection) is given at 50 fpm terminal velocity under isothermal

conditions with the face fully open. For non-isothermal conditions, use the following correction factors:

| ΔT Temp. Differential | Correction Factor |
|-----------------------|-------------------|
| 20°F Cooling          | x 1.40            |
| Isothermal            | x 1.00            |
| 10°F Heating          | x 0.83            |
| 20°F Heating          | x 0.58            |
| 30°F Heating          | x 0.53            |
| 40°F Heating          | x 0.43            |

4. NC (Noise Criteria) values are based upon 10 dB room absorption, re 10<sup>-12</sup> watts. Dash (-) in space indicates an NC of less than 20. Values shown are for the horizontal discharge pattern (center closed) and vertical discharge pattern (center fully open).

5. Data derived from tests conducted in accordance with ANSI/ASHRAE Standard 70 – 1991.

| Nominal Neck Size | Ak Factors |
|-------------------|------------|
| 8                 | 0.13       |
| 10                | 0.25       |
| 12                | 0.51       |
| 14                | 0.56       |
| 16                | 1.08       |
| 18                | 1.36       |
| 20                | 1.60       |

## PERFORATED CEILING DIFFUSERS

- SUPPLY
- 1, 2, 3 OR 4-WAY ADJUSTABLE DISCHARGE PATTERN

### Steel Models:

**4320 Flush Face**

**4325 Drop Face**

### Aluminum Face Models:

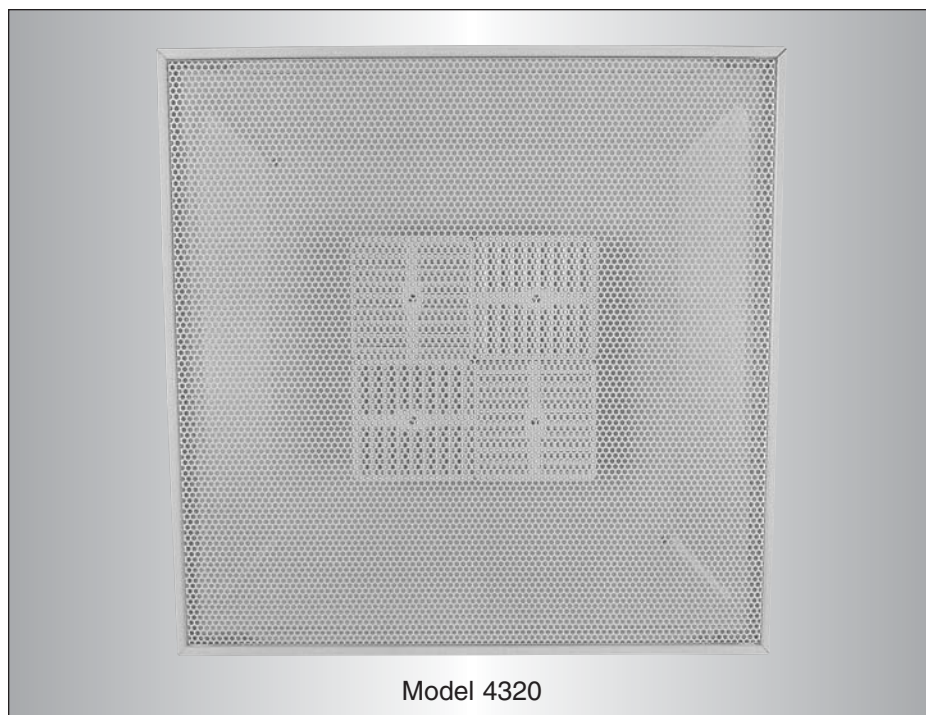
**4320A Flush Face**

**4325A Drop Face**

### Aluminum Models:

**4320AA Flush Face**

**4325AA Drop Face**



Model 4320

The **Nailor Perforated Ceiling Diffusers** have been designed to provide both the unobtrusive, smooth appearance preferred by many architects and the high engineering performance required for use in heating and cooling applications. They project a tight, uniform horizontal blanket of air over a wide range of air volumes and provide excellent performance in variable air volume systems.

The **4320 Series** features four individual stamped pattern controllers mounted on the rear of the diffuser face. They are easily field adjustable to suit the desired air pattern. **Model 4325** features a dropped (extended) face panel that is available to compliment tegular tile ceiling systems, so the panel remains flush with the ceiling line. In non-tegular ceilings the throw is reduced slightly and the airflow projection protects the ceiling against smudging.

### FEATURES:

- Round or square necks available.
- Hinged, removable face plate with quick-release spring latches.
- Discharge pattern can adjust to vertical or 1, 2, 3 or 4-way horizontal, before or after installation.
- Discharge pattern is adjusted by dropping the perforated face and rotating the pattern deflectors.
- Inlet collar has 1 1/4" (35) depth for easy duct connection.
- Dropping the perforated face gives access to the optional damper.
- Perforated face with 3/16" (5) diameter holes on staggered 1/4" (6) centers, providing 51% free area.
- Return models (**4360 Series**) have the same face and frame construction as the supply models to match the appearance.

**Material: Models 4320/4325** have a corrosion-resistant steel perforated face and backpan. **Models 4320A/4325A** have an aluminum perforated face and a corrosion-resistant steel backpan. **Models 4320AA/4325AA** have an aluminum perforated face and backpan.

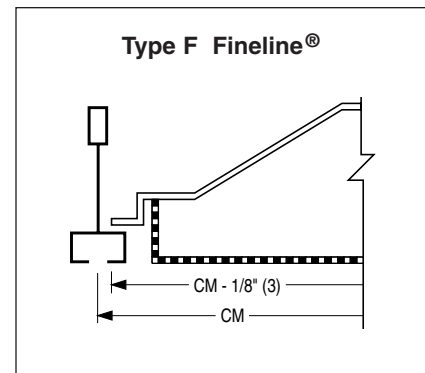
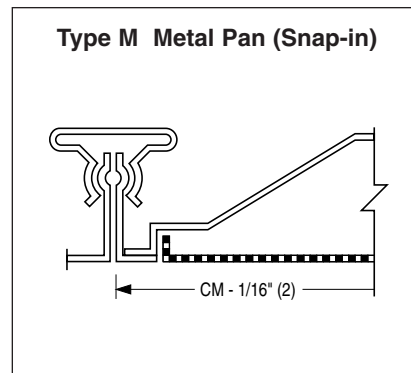
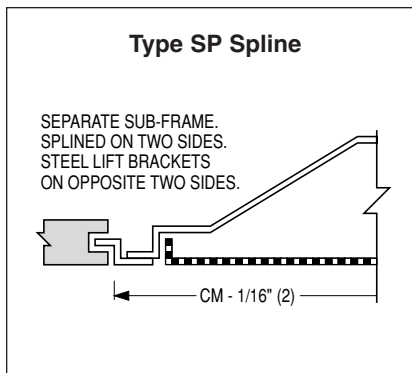
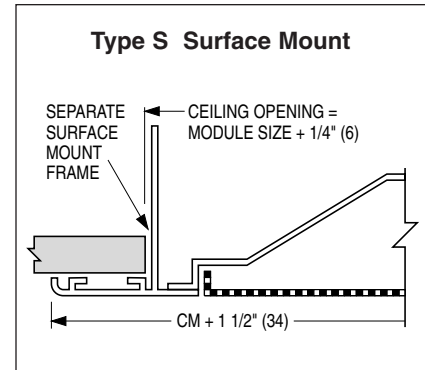
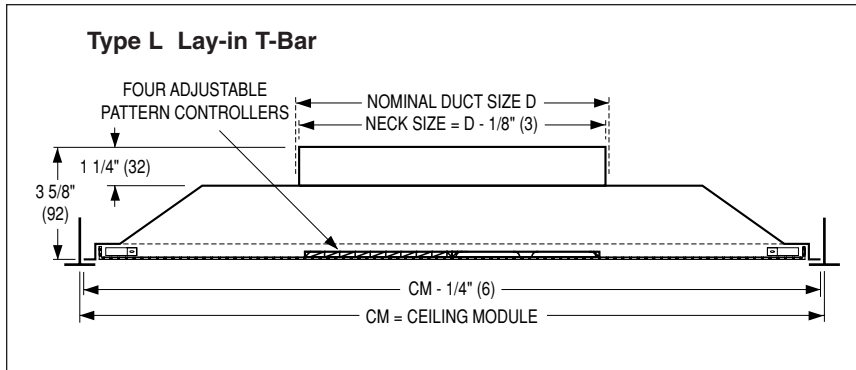
**Finish:** AW Appliance White baked enamel finish is standard. Other finishes are available.

### Available Combinations of Ceiling Module vs. Neck Size

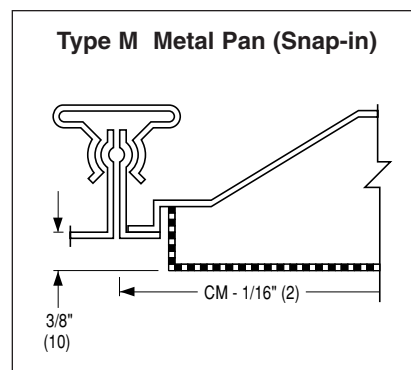
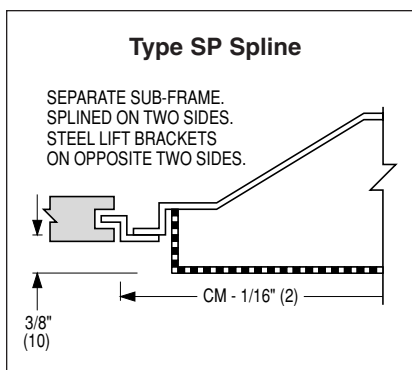
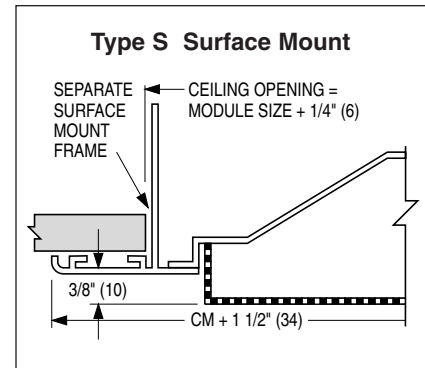
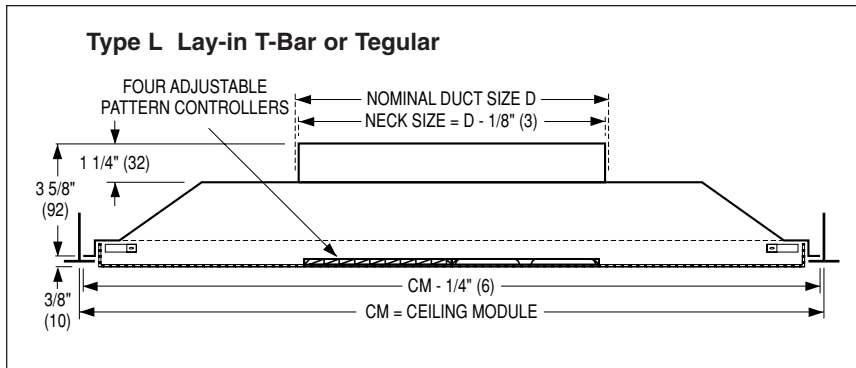
| Ceiling Module CM |                | Nominal Duct Size D           |                                        |                                         |                                                       |
|-------------------|----------------|-------------------------------|----------------------------------------|-----------------------------------------|-------------------------------------------------------|
| Imperial Modules  | Metric Modules | Round Neck                    |                                        | Square Neck                             |                                                       |
|                   |                | Imperial Units (in.)          | Metric Units (mm)                      | Imperial Units (in.)                    | Metric Units (mm)                                     |
| 12 x 12           | 300 x 300      | 6, 8                          | 152, 203                               | 6 x 6, 8 x 8                            | 152 x 152, 203 x 203                                  |
| 16 x 16           | 400 x 400      | 6, 8, 10, 12 dia.             | 152, 203, 254, 305 dia.                | 6 x 6, 8 x 8, 10 x 10, 12 x 12          | 152 x 152, 203 x 203, 254 x 254, 305 x 305            |
| 24 x 12           | 600 x 300      | 6, 8 dia.                     | 152, 203 dia.                          | 6 x 6, 8 x 8, 18 x 6                    | 152 x 152, 203 x 203, 457 x 152                       |
| 20 x 20           | 500 x 500      | 6, 8, 10, 12, 14 dia.         | 152, 203, 254, 305, 356 dia.           | 6 x 6, 8 x 8, 10 x 10                   | 152 x 152, 203 x 203, 254 x 254                       |
| 24 x 24           | 600 x 600      | 6, 8, 10, 12, 14, 15, 16 dia. | 152, 203, 254, 305, 356, 381, 406 dia. | 6 x 6, 8 x 8, 10 x 10, 12 x 12, 14 x 14 | 152 x 152, 203 x 203, 254 x 254, 305 x 305, 356 x 356 |
| 48 x 24           | 1200 x 600     |                               |                                        |                                         |                                                       |

## Dimensional Data and Frame Types

Models 4320, 4320A, 4320AA • Supply • Flush Face



Models 4325, 4325A, 4325AA • Supply • Drop Face



## HOW TO SPECIFY OR TO ORDER

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

### Perforated Supply Ceiling Diffusers – Model Series 4320

4320 - 08 - 24 x 24 - L - AW - -

#### MODEL

|                 |            |        |
|-----------------|------------|--------|
| - Steel         | Flush Face | 4320   |
|                 | Drop Face  | 4325   |
| - Aluminum Face | Flush Face | 4320A  |
|                 | Drop Face  | 4325A  |
| - Aluminum      | Flush Face | 4320AA |
|                 | Drop Face  | 4325AA |

#### NECK SIZE (inches)

##### Round

06, 08, 10, 12, 14, 15, 16

##### Square/Rectangular

6 x 6, 8 x 8, 10 x 10, 12 x 12,  
14 x 14, 18 x 6

#### CEILING MODULE

##### Imperial (inches)    Metric (mm)

|           |            |
|-----------|------------|
| - 12 x 12 | 300 x 300  |
| - 16 x 16 | 400 x 400  |
| - 20 x 20 | 500 x 500  |
| - 24 x 12 | 600 x 300  |
| - 24 x 24 | 600 x 600  |
| - 48 x 24 | 1200 x 600 |

#### ACCESSORIES

|                                 |     |
|---------------------------------|-----|
| - None (default)                | —   |
| - External Foil Back Insulation | EX  |
| - Earthquake Tabs               | EQT |

#### AIR BALANCING DEVICES

##### Round Neck

|                               |      |
|-------------------------------|------|
| - Radial Sliding Blade Damper | 4250 |
| - Radial Opposed Blade Damper | 4275 |
| - Butterfly Damper            | 4675 |
| - Equalizing Grid             | EGR  |
| - Damper/Equalizing Grid      | DEGR |

##### Square/Rectangular Neck

|                                  |      |
|----------------------------------|------|
| - Opposed Blade Damper           | OBD  |
| - Equalizing Grid (long)         | EGL  |
| - Equalizing Grid (short)        | EGS  |
| - Damper/Equalizing Grid (long)  | DEGL |
| - Damper/Equalizing Grid (short) | DEGS |

#### FINISH

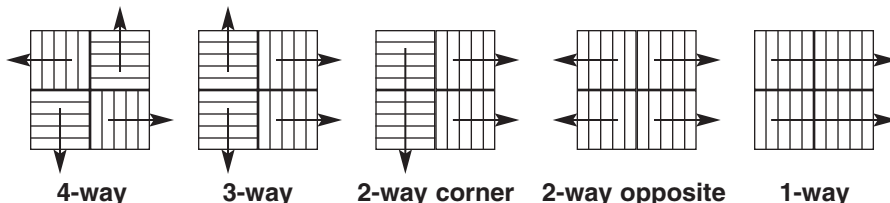
|                             |    |
|-----------------------------|----|
| - Appliance White (default) | AW |
| - Special Custom Color      | SP |
| - AW Face/Black Backpan     | BA |

#### FRAME TYPE

|                     |    |
|---------------------|----|
| - Lay-in T-Bar      | L  |
| - Surface Mount     | S  |
| - Spline            | SP |
| - Metal Pan Snap-in | M  |
| - Finline®          | F  |

#### Available Air Patterns

All diffusers are shipped with the standard 4-way pattern, but the air pattern can be simply field adjusted by lowering the hinged face and rotating the spring loaded pattern controllers.



#### Note:

1. Consult individual models as to limitations and availability of ceiling module and neck size combinations.

## SUGGESTED SPECIFICATION:

### Models 4320, 4325 – Steel

Furnish and install **Nailor Model** (select one) **4320 Flush Face** or **4325 Drop Face, Perforated Supply Ceiling Diffusers** of the sizes and capacities as shown on the plans and air distribution schedules. The diffuser shall have a heavy gauge, stamped corrosion-resistant steel backpan with a round or square neck as specified. A corrosion-resistant steel perforated face shall have 3/16" (5) dia. holes on 1/4" (6) staggered centers, providing 51% free area. Mounted on the rear of the perforated face shall be four individually stamped square pattern deflectors that are easily field adjusted to provide throws in a 1, 2, 3, or 4-way pattern. The face shall be removable, hinged and include quick-release spring latches allowing easy access for cleaning and adjusting the deflectors (or optional damper). The finish shall be AW Appliance White baked enamel (optional finishes are available).

The manufacturer shall provide published performance data for the diffuser, which shall be tested in accordance with ANSI/ASHRAE Standard 70 – 1991.

### Models 4320A, 4325A – Aluminum Face

Furnish and install **Nailor Model** (select one) **4320A Flush Face** or **4325A Drop Face, Perforated Supply Ceiling Diffusers** of the sizes and capacities as shown on the plans and air distribution schedules. The diffuser shall have a heavy gauge, stamped corrosion-resistant steel backpan with a round or square neck as specified. An aluminum perforated face shall have 3/16" (5) dia. holes on 1/4" (6) staggered centers, providing 51% free area. Mounted on the rear of the perforated face shall be four individually stamped square pattern deflectors that are easily field adjusted to provide throws in a 1, 2, 3, or 4-way pattern. The face shall be removable, hinged and include quick-release spring latches allowing easy access for cleaning and adjusting the deflectors (or optional damper). The finish shall be AW Appliance White baked enamel (optional finishes are available).

The manufacturer shall provide published performance data for the diffuser, which shall be tested in accordance with ANSI/ASHRAE Standard 70 – 1991.

### Models 4320AA, 4325AA – Aluminum

Furnish and install **Nailor Model** (select one) **4320AA Flush Face** or **4325AA Drop Face, Perforated Supply Ceiling Diffusers** of the sizes and capacities as shown on the plans and air distribution schedules. The diffuser shall have a heavy gauge, stamped aluminum backpan with a round or square neck as specified. An aluminum perforated face shall have 3/16" (5) dia. holes on 1/4" (6) staggered centers, providing 51% free area. Mounted on the rear of the perforated face shall be four individually stamped square pattern deflectors that are easily field adjusted to provide throws in a 1, 2, 3, or 4-way pattern. The face shall be removable, hinged and include quick-release spring latches allowing easy access for cleaning and adjusting the deflectors (or optional damper). The finish shall be AW Appliance White baked enamel (optional finishes are available).

The manufacturer shall provide published performance data for the diffuser, which shall be tested in accordance with ANSI/ASHRAE Standard 70 – 1991.

## Performance Data

### Models 4320, 4320A, 4320AA • Flush Face • 12 x 12 (300 x 300) Module Size

| Nominal Neck Size | Neck Velocity, FPM | 300   | 400   | 500   | 600    | 700    | 800    | 1000   | 1200    |
|-------------------|--------------------|-------|-------|-------|--------|--------|--------|--------|---------|
|                   | VP                 | .006  | .010  | .016  | .023   | .031   | .040   | .063   | .090    |
| 6" Dia.           | TP                 | .012  | .020  | .032  | .046   | .063   | .082   | .128   | .185    |
|                   | Flow Rate, CFM     | 58    | 78    | 98    | 117    | 137    | 156    | 196    | 235     |
|                   | T                  | 4-Way | 1-1-1 | 1-1-1 | 1-1-3  | 1-1-4  | 1-1-4  | 1-3-6  | 1-4-8   |
|                   |                    | 3-Way | 1-1-2 | 1-1-4 | 1-1-5  | 1-2-6  | 1-3-7  | 2-5-11 | 4-6-13  |
|                   |                    | 2-Way | 1-1-3 | 1-1-6 | 1-2-7  | 1-3-9  | 2-4-10 | 2-6-12 | 4-7-15  |
|                   |                    | 1-Way | 1-1-4 | 1-2-7 | 1-3-9  | 2-4-11 | 2-6-13 | 3-7-14 | 6-9-16  |
|                   | NC                 | —     | —     | —     | 19     | 24     | 28     | 35     | 41      |
| 8" Dia.           | TP                 | .014  | .022  | .035  | .049   | .065   | .086   | .132   | .194    |
|                   | Flow Rate, CFM     | 105   | 140   | 175   | 210    | 245    | 280    | 350    | 420     |
|                   | T                  | 4-Way | 1-1-1 | 1-1-1 | 1-1-3  | 1-1-4  | 1-1-4  | 1-3-6  | 1-4-8   |
|                   |                    | 3-Way | 1-1-2 | 1-1-4 | 1-1-5  | 1-2-6  | 1-3-7  | 2-5-11 | 4-6-13  |
|                   |                    | 2-Way | 1-1-3 | 1-1-6 | 1-2-7  | 1-3-9  | 2-4-10 | 2-6-12 | 4-7-15  |
|                   |                    | 1-Way | 1-1-4 | 1-2-7 | 1-3-9  | 2-4-11 | 2-6-13 | 3-7-14 | 6-9-16  |
|                   | NC                 | —     | —     | 16    | 22     | 27     | 31     | 38     | 44      |
| 6 x 6             | TP                 | .013  | .022  | .036  | .052   | .074   | .092   | .143   | .206    |
|                   | Flow Rate, CFM     | 75    | 100   | 125   | 150    | 175    | 200    | 250    | 300     |
|                   | T                  | 4-Way | 1-1-1 | 1-1-2 | 1-1-3  | 1-1-4  | 1-1-5  | 1-2-6  | 1-3-8   |
|                   |                    | 3-Way | 1-1-3 | 1-1-5 | 1-2-6  | 1-3-8  | 1-4-9  | 2-5-10 | 3-6-13  |
|                   |                    | 2-Way | 1-1-4 | 1-2-7 | 1-3-9  | 2-4-10 | 2-6-12 | 3-7-14 | 5-9-18  |
|                   |                    | 1-Way | 1-1-6 | 1-2-8 | 2-4-11 | 2-6-13 | 3-7-15 | 5-8-17 | 7-11-20 |
|                   | NC                 | —     | —     | 16    | 22     | 27     | 31     | 38     | 44      |
| 8 x 8             | TP                 | .015  | .026  | .041  | .059   | .080   | .104   | .162   | .234    |
|                   | Flow Rate, CFM     | 135   | 175   | 220   | 265    | 310    | 355    | 440    | 530     |
|                   | T                  | 4-Way | 1-1-1 | 1-1-2 | 1-1-3  | 1-1-4  | 1-1-5  | 1-2-6  | 1-3-8   |
|                   |                    | 3-Way | 1-1-3 | 1-1-5 | 1-2-6  | 1-3-8  | 1-4-9  | 2-5-10 | 3-6-13  |
|                   |                    | 2-Way | 1-1-4 | 1-2-7 | 1-3-9  | 2-4-10 | 2-6-12 | 3-7-14 | 5-9-18  |
|                   |                    | 1-Way | 1-1-6 | 1-2-8 | 2-4-11 | 2-6-13 | 3-7-15 | 5-8-17 | 7-11-20 |
|                   | NC                 | —     | 12    | 19    | 25     | 30     | 34     | 41     | 47      |

### Models 4320, 4320A, 4320AA • Flush Face • 24 x 12 (600 x 300) Module Size

| Nominal Neck Size | Neck Velocity, FPM | 300   | 400   | 500   | 600    | 700    | 800    | 1000   | 1200    |
|-------------------|--------------------|-------|-------|-------|--------|--------|--------|--------|---------|
|                   | VP                 | .006  | .010  | .016  | .023   | .031   | .040   | .063   | .090    |
| 6" Dia.           | TP                 | .012  | .020  | .032  | .046   | .063   | .082   | .128   | .185    |
|                   | Flow Rate, CFM     | 58    | 78    | 98    | 117    | 137    | 156    | 196    | 235     |
|                   | T                  | 4-Way | 1-1-1 | 1-1-1 | 1-1-3  | 1-1-4  | 1-1-4  | 1-3-6  | 1-4-8   |
|                   |                    | 3-Way | 1-1-2 | 1-1-4 | 1-1-5  | 1-2-6  | 1-3-7  | 2-5-11 | 4-6-13  |
|                   |                    | 2-Way | 1-1-3 | 1-1-6 | 1-2-7  | 1-3-9  | 2-4-10 | 2-6-12 | 4-7-15  |
|                   |                    | 1-Way | 1-1-4 | 1-2-7 | 1-3-9  | 2-4-11 | 2-6-13 | 3-7-14 | 6-9-16  |
|                   | NC                 | —     | —     | —     | 19     | 24     | 28     | 35     | 41      |
| 8" Dia.           | TP                 | .014  | .022  | .035  | .049   | .065   | .086   | .132   | .194    |
|                   | Flow Rate, CFM     | 105   | 140   | 175   | 210    | 245    | 280    | 350    | 420     |
|                   | T                  | 4-Way | 1-1-1 | 1-1-1 | 1-1-3  | 1-1-4  | 1-1-4  | 1-3-6  | 1-4-8   |
|                   |                    | 3-Way | 1-1-2 | 1-1-4 | 1-1-5  | 1-2-6  | 1-3-7  | 2-5-11 | 4-6-13  |
|                   |                    | 2-Way | 1-1-3 | 1-1-6 | 1-2-7  | 1-3-9  | 2-4-10 | 2-6-12 | 4-7-15  |
|                   |                    | 1-Way | 1-1-4 | 1-2-7 | 1-3-9  | 2-4-11 | 2-6-13 | 3-7-14 | 6-9-17  |
|                   | NC                 | —     | —     | 16    | 22     | 27     | 31     | 38     | 44      |
| 6 x 6             | TP                 | .013  | .022  | .036  | .052   | .074   | .092   | .143   | .206    |
|                   | Flow Rate, CFM     | 75    | 100   | 125   | 150    | 175    | 200    | 250    | 300     |
|                   | T                  | 4-Way | 1-1-1 | 1-1-2 | 1-1-3  | 1-1-4  | 1-1-5  | 1-2-6  | 1-3-8   |
|                   |                    | 3-Way | 1-1-3 | 1-1-5 | 1-2-6  | 1-3-8  | 1-4-9  | 2-5-10 | 3-6-13  |
|                   |                    | 2-Way | 1-1-4 | 1-2-7 | 1-3-9  | 2-4-10 | 2-6-12 | 3-7-14 | 5-9-18  |
|                   |                    | 1-Way | 1-1-6 | 1-2-8 | 2-4-11 | 2-6-13 | 3-7-15 | 5-8-17 | 7-11-20 |
|                   | NC                 | —     | —     | 16    | 22     | 27     | 31     | 38     | 44      |
| 8 x 8             | TP                 | .015  | .026  | .041  | .059   | .080   | .104   | .162   | .234    |
|                   | Flow Rate, CFM     | 135   | 175   | 220   | 265    | 310    | 355    | 440    | 530     |
|                   | T                  | 4-Way | 1-1-1 | 1-1-2 | 1-1-3  | 1-1-4  | 1-1-5  | 1-2-6  | 1-3-8   |
|                   |                    | 3-Way | 1-1-3 | 1-1-5 | 1-2-6  | 1-3-8  | 1-4-9  | 2-5-10 | 3-6-13  |
|                   |                    | 2-Way | 1-1-4 | 1-2-7 | 1-3-9  | 2-4-10 | 2-6-12 | 3-7-14 | 5-9-18  |
|                   |                    | 1-Way | 1-1-6 | 1-2-8 | 2-4-11 | 2-6-13 | 3-7-15 | 5-8-17 | 7-11-20 |
|                   | NC                 | —     | 12    | 19    | 25     | 30     | 34     | 41     | 47      |

For performance notes, see page D144.



## Performance Data

### Models 4320, 4320A, 4320AA • Flush Face • 24 x 24 (600 x 600) Module Size • Round Neck

| Nominal Neck Size | Neck Velocity, FPM | 300     | 400      | 500      | 600      | 700      | 800      | 1000     | 1200     |
|-------------------|--------------------|---------|----------|----------|----------|----------|----------|----------|----------|
|                   | VP                 | .006    | .010     | .016     | .023     | .031     | .040     | .063     | .090     |
| 6" Dia.           | TP                 | .012    | .020     | .032     | .046     | .062     | .082     | .128     | .185     |
|                   | Flow Rate, CFM     | 58      | 78       | 98       | 117      | 137      | 156      | 196      | 235      |
|                   | 4-Way              | 1-1-1   | 1-1-1    | 1-1-3    | 1-1-4    | 1-1-4    | 1-1-5    | 1-3-6    | 1-4-8    |
|                   | 3-Way              | 1-1-2   | 1-1-4    | 1-1-5    | 1-2-6    | 1-3-7    | 1-4-8    | 2-5-11   | 4-6-13   |
|                   | 2-Way              | 1-1-3   | 1-1-6    | 1-2-7    | 1-3-9    | 2-4-10   | 2-6-12   | 4-7-15   | 6-9-16   |
|                   | 1-Way              | 1-1-4   | 1-2-7    | 1-3-9    | 2-4-11   | 2-6-13   | 3-7-14   | 6-9-17   | 7-11-19  |
|                   | NC                 | —       | —        | 10       | 18       | 21       | 25       | 32       | 38       |
| 8" Dia.           | TP                 | .015    | .026     | .042     | .060     | .082     | .107     | .167     | .241     |
|                   | Flow Rate, CFM     | 104     | 139      | 174      | 209      | 244      | 279      | 349      | 418      |
|                   | 4-Way              | 1-1-2   | 1-1-3    | 1-1-5    | 1-2-6    | 1-2-7    | 1-3-8    | 2-5-10   | 3-6-12   |
|                   | 3-Way              | 1-1-4   | 1-2-6    | 1-3-8    | 2-4-10   | 2-5-11   | 3-6-13   | 5-8-17   | 6-10-20  |
|                   | 2-Way              | 1-1-6   | 1-3-9    | 2-4-11   | 3-6-13   | 4-8-16   | 5-9-18   | 7-11-22  | 9-13-24  |
|                   | 1-Way              | 1-2-8   | 1-4-11   | 2-6-14   | 4-8-16   | 5-9-19   | 7-11-22  | 9-14-26  | 11-16-29 |
|                   | NC                 | —       | 11       | 16       | 22       | 27       | 31       | 38       | 44       |
| 10" Dia.          | TP                 | .019    | .033     | .053     | .075     | .102     | .135     | .210     | .302     |
|                   | Flow Rate, CFM     | 163     | 218      | 272      | 327      | 381      | 436      | 545      | 654      |
|                   | 4-Way              | 1-1-3   | 1-1-5    | 1-2-7    | 1-3-8    | 2-4-10   | 2-5-11   | 4-7-14   | 5-8-17   |
|                   | 3-Way              | 1-1-7   | 1-3-9    | 2-5-11   | 3-7-14   | 4-8-16   | 5-9-18   | 7-11-23  | 9-14-27  |
|                   | 2-Way              | 1-2-9   | 2-5-12   | 3-7-15   | 5-9-19   | 7-11-22  | 8-12-26  | 10-15-32 | 12-19-34 |
|                   | 1-Way              | 1-3-11  | 3-7-15   | 4-9-19   | 7-11-23  | 9-13-28  | 10-15-31 | 12-19-36 | 15-23-39 |
|                   | NC                 | —       | 16       | 21       | 27       | 32       | 36       | 43       | 49       |
| 12" Dia.          | TP                 | .022    | .040     | .063     | .091     | .124     | .162     | .253     | .364     |
|                   | Flow Rate, CFM     | 235     | 314      | 392      | 471      | 549      | 628      | 785      | 942      |
|                   | 4-Way              | 1-1-5   | 1-2-7    | 1-3-9    | 2-5-11   | 3-6-13   | 4-7-14   | 6-9-18   | 7-11-22  |
|                   | 3-Way              | 1-2-9   | 2-5-12   | 3-7-15   | 5-9-18   | 6-10-21  | 8-12-24  | 10-15-31 | 12-18-36 |
|                   | 2-Way              | 1-4-12  | 3-7-16   | 5-10-20  | 7-12-24  | 9-14-29  | 10-16-33 | 13-20-41 | 16-24-44 |
|                   | 1-Way              | 2-6-14  | 4-9-19   | 7-12-24  | 9-14-30  | 11-17-35 | 13-19-40 | 16-24-46 | 19-30-50 |
|                   | NC                 | —       | 19       | 25       | 31       | 36       | 40       | 47       | 53       |
| 14" Dia.          | TP                 | .026    | .047     | .073     | .105     | .143     | .187     | .292     | .420     |
|                   | Flow Rate, CFM     | 318     | 424      | 530      | 636      | 742      | 848      | 1060     | 1272     |
|                   | 4-Way              | 1-1-6   | 1-3-9    | 2-5-11   | 3-6-13   | 4-8-16   | 5-9-18   | 7-11-23  | 9-13-28  |
|                   | 3-Way              | 1-4-11  | 3-7-14   | 4-9-18   | 7-11-22  | 8-13-27  | 9-14-30  | 12-18-38 | 14-22-44 |
|                   | 2-Way              | 2-6-15  | 4-10-20  | 7-12-26  | 10-15-31 | 11-17-36 | 13-20-41 | 16-26-50 | 20-31-54 |
|                   | 1-Way              | 3-8-18  | 6-12-24  | 10-15-31 | 12-18-38 | 14-21-44 | 16-24-50 | 20-30-57 | 24-38-62 |
|                   | NC                 | 13      | 23       | 29       | 35       | 40       | 44       | 51       | 57       |
| 15" Dia.          | TP                 | .029    | .052     | .081     | .117     | .159     | .208     | .324     | .467     |
|                   | Flow Rate, CFM     | 370     | 490      | 615      | 740      | 860      | 985      | 1225     | 1475     |
|                   | 4-Way              | 1-1-6   | 1-3-9    | 2-5-11   | 3-6-13   | 4-8-16   | 5-9-18   | 7-11-23  | 9-13-28  |
|                   | 3-Way              | 1-4-11  | 3-7-14   | 4-9-18   | 7-11-22  | 8-13-27  | 9-14-30  | 12-18-38 | 14-22-44 |
|                   | 2-Way              | 2-6-15  | 4-10-20  | 7-12-26  | 10-15-31 | 11-17-36 | 13-20-41 | 16-26-50 | 20-31-54 |
|                   | 1-Way              | 3-8-18  | 6-12-24  | 10-15-31 | 12-18-38 | 14-21-44 | 16-24-50 | 20-30-57 | 24-38-62 |
|                   | NC                 | 15      | 25       | 31       | 37       | 42       | 46       | 53       | 59       |
| 16" Dia.          | TP                 | .032    | .058     | .090     | .129     | .175     | .229     | .359     | .517     |
|                   | Flow Rate, CFM     | 418     | 558      | 698      | 837      | 977      | 1116     | 1396     | 1675     |
|                   | 4-Way              | 1-3-10  | 2-5-13   | 3-8-15   | 5-10-16  | 7-12-22  | 9-13-19  | 12-15-21 | 13-16-23 |
|                   | 3-Way              | 3-5-9   | 5-7-10   | 6-8-11   | 7-9-12   | 8-9-13   | 8-10-14  | 9-11-16  | 10-12-18 |
|                   | 2-Way              | 2-5-11  | 4-8-13   | 6-10-14  | 8-11-16  | 9-12-17  | 10-13-18 | 12-14-20 | 13-16-22 |
|                   | 1-Way              | 7-12-21 | 11-17-24 | 14-29-28 | 17-21-31 | 18-23-33 | 20-24-36 | 22-28-40 | 24-31-43 |
|                   | NC                 | 16      | 26       | 32       | 38       | 43       | 47       | 54       | 60       |

For performance notes, see page D144.

D

CEILING DIFFUSERS



## Performance Data

Models 4320, 4320A, 4320AA • Flush Face • 24 x 24 (600 x 600) Module Size • Square Neck

| Nominal Neck Size | Neck Velocity, FPM | 300   | 400    | 500     | 600     | 700      | 800      | 1000     | 1200     |
|-------------------|--------------------|-------|--------|---------|---------|----------|----------|----------|----------|
|                   | VP                 | .006  | .010   | .016    | .023    | .031     | .040     | .063     | .090     |
| 6 x 6             | TP                 | .013  | .022   | .036    | .052    | .070     | .092     | .143     | .206     |
|                   | Flow Rate, CFM     | 75    | 100    | 125     | 150     | 175      | 200      | 250      | 300      |
|                   | T                  | 4-Way | 1-1-1  | 1-1-2   | 1-1-3   | 1-1-4    | 1-1-5    | 1-2-6    | 2-4-9    |
|                   |                    | 3-Way | 1-1-3  | 1-1-5   | 1-2-6   | 1-3-8    | 1-4-9    | 2-5-10   | 5-8-16   |
|                   |                    | 2-Way | 1-1-4  | 1-2-7   | 1-3-9   | 2-4-10   | 2-6-12   | 3-7-14   | 5-9-18   |
|                   |                    | 1-Way | 1-1-6  | 1-2-8   | 2-4-11  | 2-6-13   | 3-7-15   | 5-8-17   | 7-10-19  |
|                   | NC                 | —     | —      | 12      | 20      | 23       | 27       | 34       | 40       |
| 8 x 8             | TP                 | .018  | .030   | .048    | .069    | .094     | .123     | .191     | .276     |
|                   | Flow Rate, CFM     | 133   | 177    | 222     | 266     | 310      | 355      | 444      | 532      |
|                   | T                  | 4-Way | 1-1-2  | 1-1-4   | 1-1-6   | 1-2-7    | 1-3-8    | 2-4-9    | 3-6-12   |
|                   |                    | 3-Way | 1-1-5  | 1-2-8   | 1-4-10  | 2-5-12   | 3-7-14   | 4-8-16   | 6-10-20  |
|                   |                    | 2-Way | 1-2-8  | 1-4-10  | 2-6-13  | 4-8-16   | 5-9-19   | 7-10-21  | 9-13-27  |
|                   |                    | 1-Way | 1-3-9  | 2-5-13  | 3-8-16  | 5-9-19   | 7-11-23  | 8-13-27  | 11-16-31 |
|                   | NC                 | —     | 14     | 19      | 25      | 30       | 34       | 41       | 47       |
| 10 x 10           | TP                 | .021  | .038   | .059    | .086    | .116     | .152     | .237     | .341     |
|                   | Flow Rate, CFM     | 208   | 277    | 347     | 416     | 485      | 555      | 694      | 832      |
|                   | T                  | 4-Way | 1-1-4  | 1-2-6   | 1-3-8   | 2-4-10   | 2-5-11   | 3-6-13   | 5-8-16   |
|                   |                    | 3-Way | 1-2-8  | 1-4-11  | 3-6-13  | 4-8-16   | 5-9-19   | 7-11-22  | 9-13-28  |
|                   |                    | 2-Way | 1-3-11 | 3-6-14  | 4-9-18  | 6-11-22  | 8-13-27  | 9-14-30  | 12-18-37 |
|                   |                    | 1-Way | 2-5-13 | 4-9-18  | 6-11-22 | 9-13-28  | 10-16-33 | 12-18-37 | 15-22-42 |
|                   | NC                 | —     | 17     | 24      | 30      | 35       | 39       | 45       | 52       |
| 12 x 12           | TP                 | .025  | .046   | .071    | .103    | .140     | .183     | .286     | .411     |
|                   | Flow Rate, CFM     | 300   | 400    | 500     | 600     | 700      | 800      | 1000     | 1200     |
|                   | T                  | 4-Way | 1-1-6  | 1-3-8   | 2-4-11  | 3-6-13   | 4-7-15   | 5-8-17   | 7-11-22  |
|                   |                    | 3-Way | 1-3-10 | 2-6-14  | 4-9-18  | 6-10-21  | 8-12-26  | 9-14-29  | 11-18-37 |
|                   |                    | 2-Way | 2-5-14 | 4-9-19  | 7-12-24 | 9-14-30  | 11-17-35 | 13-19-40 | 16-24-47 |
|                   |                    | 1-Way | 3-8-17 | 6-11-23 | 9-14-30 | 11-17-36 | 13-20-42 | 15-23-48 | 19-30-54 |
|                   | NC                 | 12    | 21     | 28      | 34      | 39       | 43       | 49       | 56       |
| 14 x 14           | TP                 | .031  | .055   | .086    | .124    | .169     | .221     | .345     | .497     |
|                   | Flow Rate, CFM     | 410   | 545    | 680     | 815     | 955      | 1090     | 1360     | 1635     |
|                   | T                  | 4-Way | 1-1-6  | 1-3-8   | 2-4-11  | 3-6-13   | 4-7-15   | 5-8-17   | 7-11-22  |
|                   |                    | 3-Way | 1-3-10 | 2-6-14  | 4-9-18  | 6-10-21  | 8-12-26  | 9-14-29  | 11-18-37 |
|                   |                    | 2-Way | 2-5-14 | 4-9-19  | 7-12-24 | 9-14-30  | 11-17-35 | 13-19-40 | 16-24-47 |
|                   |                    | 1-Way | 3-8-17 | 6-11-23 | 9-14-30 | 11-17-36 | 13-20-42 | 15-23-48 | 19-30-54 |
|                   | NC                 | 15    | 24     | 31      | 37      | 42       | 46       | 52       | 59       |

CFM - cubic feet per minute

FPM - feet per minute velocity

TP - total pressure - inches w.g.

VP - velocity pressure - inches w.g.

T - throw in feet

NC - Noise Criteria (values) based on 10 dB room absorption, re 10<sup>-12</sup> watts.

### Performance Notes:

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

2. Data derived from tests conducted in accordance with ANSI/ASHRAE Standard 70 - 1991.

| Neck Size Square in Inches | Nominal Overall Face Size | Ak Factor |
|----------------------------|---------------------------|-----------|
| 6 x 6                      | 12 x 12                   | 0.2345    |
| 8 x 8                      | 12 x 12                   | 0.3461    |
| 6 x 6                      | 24 x 24                   | 0.6932    |
| 8 x 8                      | 24 x 24                   | 0.7620    |
| 10 x 10                    | 24 x 24                   | 0.7995    |
| 12 x 12                    | 24 x 24                   | 0.8464    |
| 14 x 14                    | 24 x 24                   | 0.8993    |

| Neck Size Diameter in Inches | Nominal Overall Face Size | Ak Factor |
|------------------------------|---------------------------|-----------|
| 6                            | 12 x 12                   | 0.2289    |
| 8                            | 12 x 12                   | 0.2418    |
| 6                            | 24 x 24                   | 0.6010    |
| 8                            | 24 x 24                   | 0.6854    |
| 10                           | 24 x 24                   | 0.7283    |
| 12                           | 24 x 24                   | 0.7651    |
| 14                           | 24 x 24                   | 0.8102    |
| 15                           | 24 x 24                   | 0.8389    |

## Performance Data

### Models 4325, 4325A, 4325AA • Drop Face • 12 x 12 (300 x 300) Module Size

| Nominal Neck Size | Neck Velocity, FPM | 300   | 400   | 500   | 600    | 700    | 800    | 1000   | 1200    |
|-------------------|--------------------|-------|-------|-------|--------|--------|--------|--------|---------|
| VP                |                    | .006  | .010  | .016  | .023   | .031   | .040   | .063   | .090    |
| 6" Dia.           | TP                 | .009  | .016  | .025  | .036   | .049   | .063   | .099   | .143    |
|                   | Flow Rate, CFM     | 58    | 78    | 98    | 117    | 137    | 156    | 196    | 235     |
|                   | T                  | 4-Way | 1-1-1 | 1-1-2 | 1-1-3  | 1-1-3  | 1-2-4  | 1-2-4  | 2-3-6   |
|                   |                    | 3-Way | 1-1-2 | 1-1-3 | 1-2-4  | 1-2-5  | 1-3-6  | 2-3-7  | 3-4-9   |
|                   |                    | 2-Way | 1-1-3 | 1-1-4 | 1-2-5  | 1-3-6  | 2-3-7  | 2-4-8  | 3-5-11  |
|                   |                    | 1-Way | 1-1-4 | 1-2-6 | 1-3-7  | 2-4-9  | 3-5-10 | 4-6-12 | 5-7-15  |
|                   | NC                 | —     | —     | —     | 16     | 21     | 25     | 32     | 38      |
| 8" Dia.           | TP                 | .010  | .017  | .026  | .037   | .051   | .067   | .104   | .150    |
|                   | Flow Rate, CFM     | 105   | 140   | 175   | 210    | 245    | 280    | 350    | 420     |
|                   | T                  | 4-Way | 1-1-1 | 1-1-1 | 1-1-3  | 1-1-4  | 1-1-4  | 1-1-5  | 1-3-6   |
|                   |                    | 3-Way | 1-1-2 | 1-1-4 | 1-1-5  | 1-2-6  | 1-3-7  | 1-4-8  | 2-5-11  |
|                   |                    | 2-Way | 1-1-3 | 1-1-6 | 1-2-7  | 1-3-9  | 2-4-10 | 2-6-12 | 4-7-15  |
|                   |                    | 1-Way | 1-1-4 | 1-2-7 | 1-3-9  | 2-4-11 | 2-6-13 | 3-7-14 | 5-8-16  |
|                   | NC                 | —     | —     | 14    | 20     | 25     | 29     | 36     | 42      |
| 6 x 6             | TP                 | .010  | .019  | .028  | .041   | .056   | .072   | .113   | .163    |
|                   | Flow Rate, CFM     | 75    | 100   | 125   | 150    | 175    | 200    | 250    | 300     |
|                   | T                  | 4-Way | 1-1-2 | 1-1-3 | 1-1-3  | 1-2-4  | 1-2-5  | 2-3-6  | 2-3-7   |
|                   |                    | 3-Way | 1-1-3 | 1-1-4 | 1-2-5  | 1-3-6  | 2-4-8  | 3-4-9  | 3-5-10  |
|                   |                    | 2-Way | 1-1-4 | 1-2-5 | 1-3-7  | 2-4-8  | 3-4-9  | 3-5-11 | 4-7-13  |
|                   |                    | 1-Way | 1-1-5 | 1-3-7 | 2-4-9  | 3-5-11 | 4-6-13 | 5-7-15 | 6-9-17  |
|                   | NC                 | —     | —     | 13    | 19     | 24     | 28     | 35     | 41      |
| 8 x 8             | TP                 | .012  | .021  | .032  | .046   | .063   | .082   | .128   | .185    |
|                   | Flow Rate, CFM     | 135   | 175   | 220   | 265    | 310    | 355    | 440    | 530     |
|                   | T                  | 4-Way | 1-1-1 | 1-1-2 | 1-1-3  | 1-1-4  | 1-1-5  | 1-2-6  | 1-3-8   |
|                   |                    | 3-Way | 1-1-3 | 1-1-5 | 1-2-6  | 1-3-8  | 1-4-9  | 2-5-10 | 3-6-13  |
|                   |                    | 2-Way | 1-1-4 | 1-2-7 | 1-3-9  | 2-4-10 | 2-6-12 | 3-7-14 | 5-9-18  |
|                   |                    | 1-Way | 1-1-6 | 1-2-8 | 2-4-11 | 2-6-13 | 3-7-15 | 5-8-17 | 7-11-20 |
|                   | NC                 | —     | 10    | 17    | 23     | 28     | 32     | 39     | 45      |

### Models 4325, 4325A, 4325AA • Drop Face • 24 x 12 (600 x 300) Module Size

| Nominal Neck Size | Neck Velocity, FPM | 300   | 400   | 500   | 600    | 700    | 800    | 1000   | 1200    |
|-------------------|--------------------|-------|-------|-------|--------|--------|--------|--------|---------|
| VP                |                    | .006  | .010  | .016  | .023   | .031   | .040   | .063   | .090    |
| 6" Dia.           | TP                 | .009  | .016  | .025  | .036   | .049   | .063   | .099   | .143    |
|                   | Flow Rate, CFM     | 58    | 78    | 98    | 117    | 137    | 156    | 196    | 235     |
|                   | T                  | 4-Way | 1-1-1 | 1-1-2 | 1-1-3  | 1-1-3  | 1-2-4  | 1-2-4  | 2-3-6   |
|                   |                    | 3-Way | 1-1-2 | 1-1-3 | 1-2-4  | 1-2-5  | 1-3-6  | 2-3-7  | 3-4-9   |
|                   |                    | 2-Way | 1-1-3 | 1-1-4 | 1-2-5  | 1-3-6  | 2-3-7  | 2-4-8  | 3-5-11  |
|                   |                    | 1-Way | 1-1-4 | 1-2-6 | 1-3-7  | 2-4-9  | 3-5-10 | 4-6-12 | 5-7-15  |
|                   | NC                 | —     | —     | —     | 16     | 21     | 25     | 32     | 38      |
| 8" Dia.           | TP                 | .010  | .017  | .026  | .037   | .051   | .067   | .104   | .150    |
|                   | Flow Rate, CFM     | 105   | 140   | 175   | 210    | 245    | 280    | 350    | 420     |
|                   | T                  | 4-Way | 1-1-1 | 1-1-1 | 1-1-3  | 1-1-4  | 1-1-4  | 1-1-5  | 1-3-6   |
|                   |                    | 3-Way | 1-1-2 | 1-1-4 | 1-1-5  | 1-2-6  | 1-3-7  | 1-4-8  | 2-5-11  |
|                   |                    | 2-Way | 1-1-3 | 1-1-6 | 1-2-7  | 1-3-9  | 2-4-10 | 2-6-12 | 4-7-15  |
|                   |                    | 1-Way | 1-1-4 | 1-2-7 | 1-3-9  | 2-4-11 | 2-6-13 | 3-7-14 | 5-8-16  |
|                   | NC                 | —     | —     | 14    | 20     | 25     | 29     | 36     | 42      |
| 6 x 6             | TP                 | .013  | .022  | .036  | .052   | .074   | .092   | .143   | .206    |
|                   | Flow Rate, CFM     | 75    | 100   | 125   | 150    | 175    | 200    | 250    | 300     |
|                   | T                  | 4-Way | 1-1-1 | 1-1-2 | 1-1-3  | 1-1-4  | 1-1-5  | 1-2-6  | 1-3-8   |
|                   |                    | 3-Way | 1-1-3 | 1-1-5 | 1-2-6  | 1-3-8  | 1-4-9  | 2-5-10 | 3-6-13  |
|                   |                    | 2-Way | 1-1-4 | 1-2-7 | 1-3-9  | 2-4-10 | 2-6-12 | 3-7-14 | 5-9-18  |
|                   |                    | 1-Way | 1-1-6 | 1-2-8 | 2-4-11 | 2-6-13 | 3-7-15 | 5-8-17 | 7-11-20 |
|                   | NC                 | —     | —     | 13    | 19     | 24     | 28     | 35     | 41      |
| 8 x 8             | TP                 | .012  | .021  | .032  | .046   | .063   | .082   | .128   | .185    |
|                   | Flow Rate, CFM     | 135   | 175   | 220   | 265    | 310    | 355    | 440    | 530     |
|                   | T                  | 4-Way | 1-1-1 | 1-1-2 | 1-1-3  | 1-1-4  | 1-1-5  | 1-2-6  | 1-3-8   |
|                   |                    | 3-Way | 1-1-3 | 1-1-5 | 1-2-6  | 1-3-8  | 1-4-9  | 2-5-10 | 3-6-13  |
|                   |                    | 2-Way | 1-1-4 | 1-2-7 | 1-3-9  | 2-4-10 | 2-6-12 | 3-7-14 | 5-9-18  |
|                   |                    | 1-Way | 1-1-6 | 1-2-8 | 2-4-11 | 2-6-13 | 3-7-15 | 5-8-17 | 7-11-20 |
|                   | NC                 | —     | 10    | 17    | 23     | 28     | 32     | 39     | 45      |

For performance notes, see page D147.

D

CEILING DIFFUSERS

## Performance Data

Models 4325, 4325A, 4325AA • Drop Face • 24 x 24 (600 x 600) Module Size • Round Neck

| Nominal Neck Size | Neck Velocity, FPM | 300   | 400     | 500      | 600      | 700      | 800      | 1000     | 1200     |
|-------------------|--------------------|-------|---------|----------|----------|----------|----------|----------|----------|
|                   | VP                 | .006  | .010    | .016     | .023     | .031     | .040     | .063     | .090     |
| 6" Dia.           | TP                 | .009  | .016    | .025     | .036     | .049     | .063     | .099     | .143     |
|                   | Flow Rate, CFM     | 58    | 78      | 98       | 117      | 137      | 156      | 196      | 235      |
|                   | T                  | 4-Way | 1-1-1   | 1-1-2    | 1-1-3    | 1-1-3    | 1-2-4    | 1-2-4    | 2-3-6    |
|                   |                    | 3-Way | 1-1-2   | 1-1-3    | 1-2-4    | 1-2-5    | 1-3-6    | 2-3-7    | 3-4-9    |
|                   |                    | 2-Way | 1-1-3   | 1-1-4    | 1-2-5    | 1-3-6    | 2-3-7    | 2-4-8    | 3-5-11   |
|                   |                    | 1-Way | 1-1-4   | 1-2-6    | 1-3-7    | 2-4-9    | 3-5-10   | 4-6-12   | 5-7-15   |
|                   | NC                 | —     | —       | —        | 15       | 18       | 22       | 29       | 35       |
| 8" Dia.           | TP                 | .013  | .021    | .034     | .049     | .066     | .087     | .136     | .195     |
|                   | Flow Rate, CFM     | 104   | 139     | 174      | 209      | 244      | 279      | 349      | 418      |
|                   | T                  | 4-Way | 1-1-3   | 1-1-4    | 1-2-5    | 1-3-6    | 2-3-7    | 2-4-8    | 3-5-8    |
|                   |                    | 3-Way | 1-1-4   | 1-2-6    | 2-3-7    | 2-4-9    | 3-5-11   | 4-6-12   | 5-7-13   |
|                   |                    | 2-Way | 1-2-5   | 1-3-7    | 2-4-9    | 3-5-11   | 4-6-13   | 5-7-15   | 6-9-16   |
|                   |                    | 1-Way | 1-2-7   | 2-4-10   | 3-6-12   | 4-7-15   | 6-9-18   | 8-12-21  | 10-15-23 |
|                   | NC                 | —     | —       | 13       | 18       | 24       | 28       | 35       | 41       |
| 10" Dia.          | TP                 | .016  | .027    | .043     | .061     | .084     | .109     | .171     | .245     |
|                   | Flow Rate, CFM     | 163   | 218     | 272      | 327      | 381      | 436      | 545      | 654      |
|                   | T                  | 4-Way | 1-1-4   | 1-3-6    | 2-3-7    | 3-4-9    | 3-5-10   | 4-6-10   | 5-7-12   |
|                   |                    | 3-Way | 1-2-7   | 2-4-9    | 3-6-12   | 4-7-14   | 5-8-15   | 6-9-16   | 8-12-18  |
|                   |                    | 2-Way | 1-3-8   | 2-5-11   | 4-7-14   | 5-8-17   | 6-10-19  | 7-11-20  | 9-14-22  |
|                   |                    | 1-Way | 2-4-11  | 3-7-15   | 6-9-19   | 7-11-23  | 9-13-26  | 10-15-28 | 13-19-31 |
|                   | NC                 | —     | 13      | 18       | 24       | 29       | 33       | 40       | 46       |
| 12" Dia.          | TP                 | .019  | .033    | .052     | .074     | .101     | .132     | .207     | .297     |
|                   | Flow Rate, CFM     | 235   | 314     | 392      | 471      | 549      | 628      | 785      | 942      |
|                   | T                  | 4-Way | 1-3-6   | 2-4-9    | 3-5-11   | 4-6-12   | 5-7-13   | 6-9-14   | 7-11-15  |
|                   |                    | 3-Way | 2-4-10  | 3-6-13   | 5-8-16   | 6-10-18  | 7-11-19  | 9-13-20  | 11-16-23 |
|                   |                    | 2-Way | 2-5-12  | 4-8-16   | 6-10-20  | 8-12-22  | 9-14-24  | 11-16-22 | 13-20-30 |
|                   |                    | 1-Way | 3-7-16  | 6-11-22  | 9-14-28  | 11-16-30 | 13-19-33 | 14-22-35 | 18-28-39 |
|                   | NC                 | —     | 17      | 23       | 29       | 34       | 38       | 45       | 51       |
| 14" Dia.          | TP                 | .021  | .038    | .059     | .086     | .117     | .153     | .239     | .344     |
|                   | Flow Rate, CFM     | 318   | 424     | 530      | 636      | 742      | 848      | 1060     | 1272     |
|                   | T                  | 4-Way | 2-4-8   | 3-5-11   | 4-7-13   | 5-8-14   | 6-10-16  | 7-11-17  | 9-13-19  |
|                   |                    | 3-Way | 3-6-13  | 5-9-18   | 7-11-20  | 9-13-22  | 10-15-24 | 12-18-26 | 15-20-29 |
|                   |                    | 2-Way | 3-8-16  | 6-11-22  | 9-13-26  | 11-16-28 | 12-19-31 | 14-22-33 | 18-27-36 |
|                   |                    | 1-Way | 5-11-22 | 9-14-30  | 12-18-35 | 14-22-38 | 17-27-41 | 19-30-44 | 24-35-49 |
|                   | NC                 | 10    | 20      | 28       | 32       | 37       | 41       | 48       | 54       |
| 15" Dia.          | TP                 | .022  | .040    | .062     | .091     | .127     | .171     | .265     | .366     |
|                   | Flow Rate, CFM     | 370   | 490     | 615      | 740      | 860      | 985      | 1225     | 1475     |
|                   | T                  | 4-Way | 2-4-7   | 3-5-10   | 4-7-12   | 5-8-14   | 6-9-15   | 7-10-17  | 9-12-19  |
|                   |                    | 3-Way | 3-6-13  | 5-9-19   | 7-10-19  | 9-12-22  | 10-15-23 | 12-18-26 | 14-19-29 |
|                   |                    | 2-Way | 3-8-15  | 6-11-21  | 8-12-26  | 11-15-28 | 11-19-30 | 13-21-32 | 18-27-35 |
|                   |                    | 1-Way | 5-10-21 | 8-14-29  | 11-17-34 | 13-21-36 | 17-26-40 | 18-29-42 | 24-34-47 |
|                   | NC                 | 12    | 22      | 28       | 34       | 39       | 43       | 50       | 56       |
| 16" Dia.          | TP                 | .025  | .045    | .070     | .100     | .137     | .179     | .280     | .403     |
|                   | Flow Rate, CFM     | 418   | 558     | 698      | 837      | 977      | 1116     | 1396     | 1675     |
|                   | T                  | 4-Way | 3-5-11  | 5-7-15   | 6-9-17   | 7-11-18  | 8-13-20  | 10-15-21 | 12-17-24 |
|                   |                    | 3-Way | 2-6-13  | 4-9-17   | 7-11-19  | 9-13-21  | 10-16-22 | 12-17-24 | 15-19-28 |
|                   |                    | 2-Way | 2-6-13  | 4-9-17   | 7-11-19  | 9-13-21  | 10-16-22 | 12-17-24 | 15-19-28 |
|                   |                    | 1-Way | 7-12-23 | 12-17-27 | 15-21-31 | 18-23-34 | 20-26-36 | 22-27-39 | 24-31-43 |
|                   | NC                 | 13    | 23      | 29       | 35       | 40       | 44       | 51       | 57       |

For performance notes, see page D147.

## Performance Data

### Models 4325, 4325A, 4325AA • Drop Face • 24 x 24 (600 x 600) Module Size • Square Neck

| Nominal Neck Size | Neck Velocity, FPM | 300   | 400     | 500     | 600      | 700      | 800      | 1000     | 1200     |
|-------------------|--------------------|-------|---------|---------|----------|----------|----------|----------|----------|
|                   | VP                 | .006  | .010    | .016    | .023     | .031     | .040     | .063     | .090     |
| 6 x 6             | TP                 | .010  | .019    | .028    | .041     | .056     | .072     | .113     | .163     |
|                   | Flow Rate, CFM     | 75    | 100     | 125     | 150      | 175      | 200      | 250      | 300      |
|                   | T                  | 4-Way | 1-1-2   | 1-1-3   | 1-1-3    | 1-2-4    | 1-2-5    | 2-3-6    | 2-3-7    |
|                   |                    | 3-Way | 1-1-3   | 1-1-4   | 1-2-5    | 1-3-6    | 2-4-8    | 3-4-9    | 3-5-10   |
|                   |                    | 2-Way | 1-1-4   | 1-2-5   | 1-3-7    | 2-4-8    | 3-4-9    | 3-5-11   | 4-7-13   |
|                   |                    | 1-Way | 1-1-5   | 1-3-7   | 2-4-9    | 3-5-11   | 4-6-13   | 5-7-15   | 6-9-17   |
|                   | NC                 | —     | —       | —       | 17       | 20       | 24       | 31       | 37       |
| 8 x 8             | TP                 | .014  | .024    | .038    | .056     | .075     | .098     | .153     | .220     |
|                   | Flow Rate, CFM     | 133   | 177     | 222     | 266      | 310      | 355      | 444      | 532      |
|                   | T                  | 4-Way | 1-1-3   | 1-2-5   | 1-3-6    | 2-3-7    | 3-4-8    | 3-5-9    | 4-6-10   |
|                   |                    | 3-Way | 1-2-5   | 1-3-7   | 2-4-9    | 3-5-11   | 4-6-13   | 5-7-14   | 6-9-15   |
|                   |                    | 2-Way | 1-2-7   | 2-4-9   | 3-6-12   | 4-7-14   | 5-8-16   | 6-9-17   | 8-12-19  |
|                   |                    | 1-Way | 1-3-9   | 3-6-13  | 4-8-16   | 6-9-19   | 7-11-21  | 8-13-23  | 10-16-27 |
|                   | NC                 | —     | 11      | 16      | 22       | 27       | 31       | 38       | 44       |
| 10 x 10           | TP                 | .018  | .031    | .049    | .069     | .095     | .124     | .193     | .278     |
|                   | Flow Rate, CFM     | 208   | 277     | 347     | 416      | 485      | 555      | 694      | 832      |
|                   | T                  | 4-Way | 1-2-5   | 2-3-7   | 3-4-9    | 3-5-11   | 4-6-12   | 5-7-12   | 6-9-14   |
|                   |                    | 3-Way | 1-4-8   | 3-5-11  | 4-7-14   | 5-8-16   | 6-10-18  | 7-11-19  | 9-14-21  |
|                   |                    | 2-Way | 2-5-11  | 4-7-14  | 6-9-18   | 7-11-20  | 8-13-22  | 9-14-24  | 12-18-28 |
|                   |                    | 1-Way | 3-6-14  | 5-9-19  | 8-12-24  | 9-14-28  | 11-17-30 | 13-19-32 | 16-24-36 |
|                   | NC                 | —     | 14      | 21      | 27       | 32       | 36       | 42       | 49       |
| 12 x 12           | TP                 | .020  | .037    | .058    | .084     | .114     | .149     | .233     | .335     |
|                   | Flow Rate, CFM     | 300   | 400     | 500     | 600      | 700      | 800      | 1000     | 1200     |
|                   | T                  | 4-Way | 1-4-8   | 3-5-11  | 4-7-13   | 5-8-14   | 6-9-15   | 7-11-16  | 9-13-18  |
|                   |                    | 3-Way | 2-6-12  | 5-8-17  | 7-10-19  | 8-12-21  | 10-15-23 | 11-17-24 | 14-19-28 |
|                   |                    | 2-Way | 3-7-15  | 6-10-21 | 8-13-24  | 10-15-27 | 12-18-29 | 14-21-32 | 17-24-35 |
|                   |                    | 1-Way | 4-10-21 | 8-14-29 | 11-17-33 | 14-21-36 | 16-24-39 | 18-29-42 | 23-33-46 |
|                   | NC                 | —     | 18      | 25      | 31       | 36       | 40       | 46       | 53       |
| 14 x 14           | TP                 | .025  | .046    | .071    | .103     | .140     | .183     | .286     | .411     |
|                   | Flow Rate, CFM     | 408   | 544     | 681     | 817      | 953      | 1089     | 1361     | 1633     |
|                   | T                  | 4-Way | 1-1-6   | 1-3-8   | 2-4-11   | 3-6-13   | 4-7-15   | 5-8-17   | 7-11-22  |
|                   |                    | 3-Way | 1-3-10  | 2-6-14  | 4-9-18   | 6-10-21  | 8-12-26  | 9-14-29  | 11-18-37 |
|                   |                    | 2-Way | 2-5-14  | 4-9-19  | 7-12-24  | 9-14-30  | 11-17-35 | 13-19-40 | 16-24-47 |
|                   |                    | 1-Way | 3-8-17  | 6-11-23 | 9-14-30  | 11-17-36 | 13-20-42 | 15-23-48 | 19-30-54 |
|                   | NC                 | 12    | 21      | 28      | 34       | 39       | 43       | 49       | 56       |

**CFM** - cubic feet per minute

**FPM** - feet per minute velocity

**TP** - total pressure - inches w.g.

**VP** - velocity pressure - inches w.g.

**T** - throw in feet

**NC** - Noise Criteria (values) based on 10 dB room absorption, re 10<sup>-12</sup> watts.

#### Performance Notes:

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

2. Data derived from tests conducted in accordance with ANSI/ASHRAE Standard 70 – 1991.

#### Balancing:

It is recommended that a commercially available 'Flow Hood' is used for field balancing. The airflow meter directly reads average flow rate with great accuracy at all volumes. It is a much faster and more accurate alternative to time consuming multiple velocity readings, eliminating the use of Ak factors and the calculations required to convert the average velocity into airflow.

## PERFORATED CURVED BLADE DIFFUSERS

- SUPPLY
- 4-WAY ADJUSTABLE DISCHARGE PATTERN (STANDARD)
- 1, 2 OR 3-WAY DISCHARGE PATTERN (OPTIONAL)

### Steel Models:

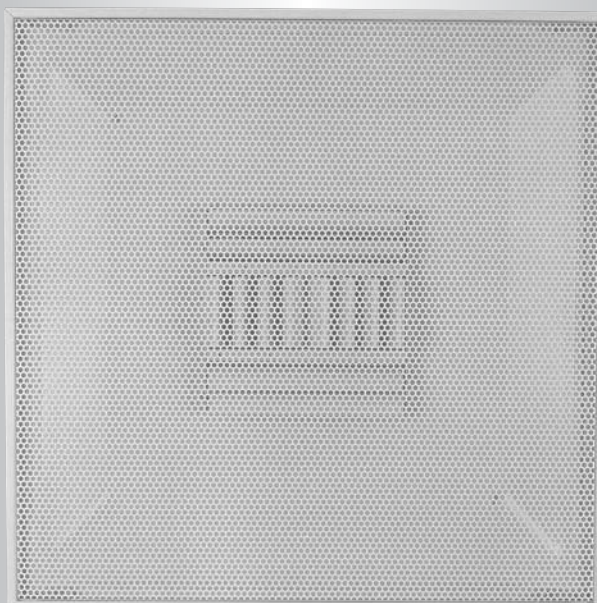
**4320CB** Flush Face  
**4325CB** Drop Face

### Aluminum Face Models:

**4320CBA** Flush Face  
**4325CBA** Drop Face

### Aluminum Models:

**4320CBAA** Flush Face  
**4325CBAA** Drop Face



Model 4320CB

The **Nailor 4320CB Curved Blade Diffusers** provide the unobtrusive, smooth appearance preferred by many architects with superior features and performance characteristics. Designed to maximize throw, this model features individually adjustable, friction pivoted curved blade deflectors mounted directly under the neck. They project a tight, uniform horizontal blanket of air over a wide range of air volumes and provide excellent performance in variable air volume systems.

The **4320CB Diffuser** features a 4-way adjustable discharge pattern as standard. The deflector blades can be adjusted to control both the angle of discharge and hence throw from full horizontal to vertical in each direction and also damper the air volume. By closing off the deflectors in one or more directions, directional control can also be achieved. The **4320CB** is also available with a factory supplied 1, 2 or 3-way adjustable discharge pattern controller.

The **4325CB** features a dropped (extended) face panel that is available to compliment tegular tile ceiling systems, so that the panel remains flush with the ceiling line.

### FEATURES:

- Round or square necks available.
- Hinged, removable face plate with quick-release spring latches.
- Discharge pattern can be adjusted from horizontal to vertical before or after installation.
- Discharge pattern is adjusted by dropping the perforated face and moving the curved blade deflectors.
- Inlet collar has 1 1/4" (35) depth for easy duct connection.
- Dropping the perforated face gives access to the optional damper.
- Perforated face with 3/16" (5) diameter holes on staggered 1/4" (6) centers, providing 51% free area.
- Return models (**4360 Series**) have the same face and frame construction as the supply models to match their appearance.

**Material:** Models **4320CB/4325CB** have a corrosion-resistant steel perforated face and backpan. Models **4320CBA/4325CBA** have an aluminum perforated face and a corrosion-resistant steel backpan. Models **4320CBAA/4325CBAA** have an aluminum perforated face and backpan.

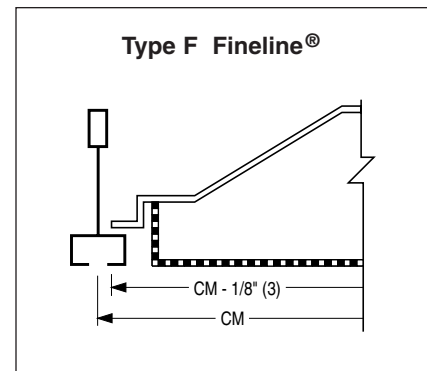
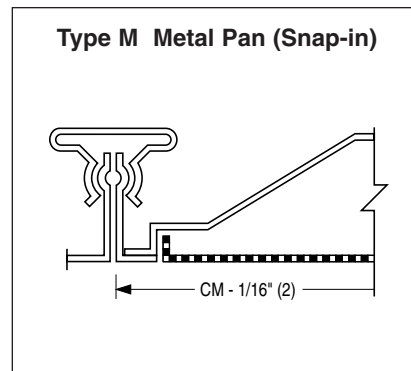
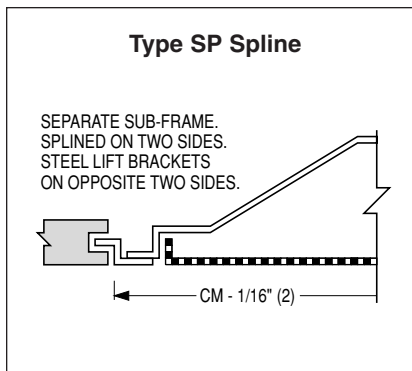
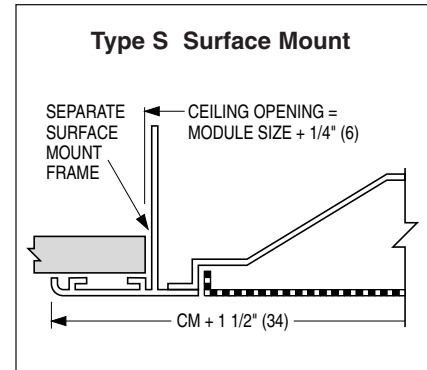
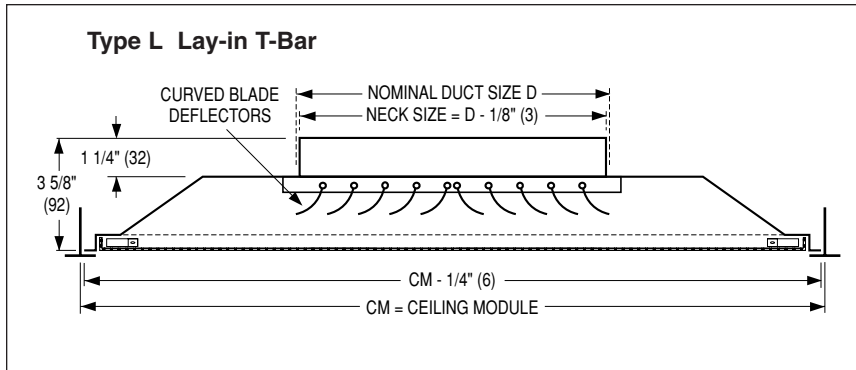
**Finish:** AW Appliance White baked enamel finish is standard. Other finishes are available.

### Available Combinations of Ceiling Module vs. Neck Size

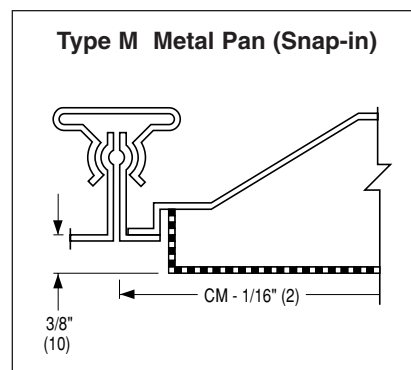
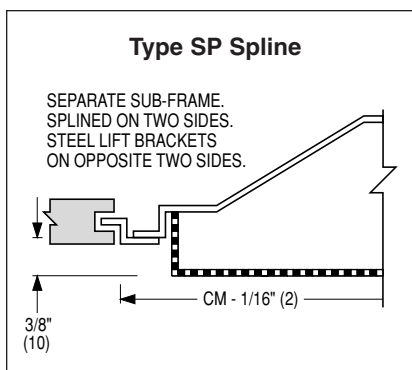
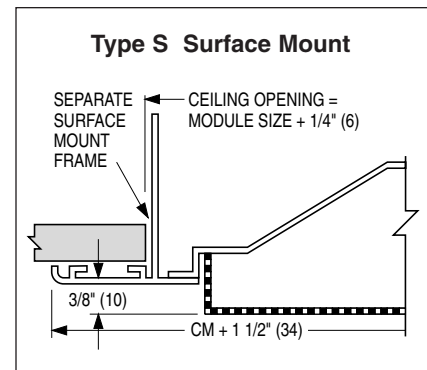
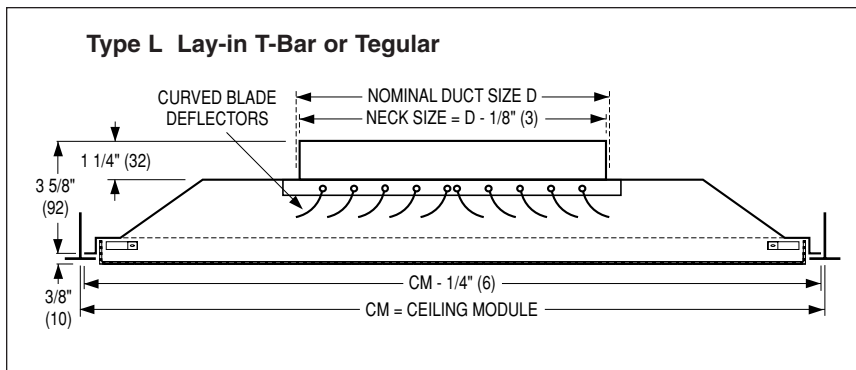
| Ceiling Module CM |                | Nominal Duct Size D               |                                             |                                                                    |                                                                                        |
|-------------------|----------------|-----------------------------------|---------------------------------------------|--------------------------------------------------------------------|----------------------------------------------------------------------------------------|
| Imperial Modules  | Metric Modules | Round Neck                        |                                             | Square Neck                                                        |                                                                                        |
|                   |                | Imperial Units (in.)              | Metric Units (mm)                           | Imperial Units (in.)                                               | Metric Units (mm)                                                                      |
| 12 x 12           | 300 x 300      | 6, 8 dia.                         | 152, 203 dia.                               | 6 x 6, 8 x 8                                                       | 152 x 152, 203 x 203                                                                   |
| 16 x 16           | 400 x 400      | 6, 8, 10, 12 dia.                 | 152, 203, 254, 305 dia.                     | 6 x 6, 8 x 8, 10 x 10, 12 x 12                                     | 152 x 152, 203 x 203, 254 x 254, 305 x 305                                             |
| 24 x 12           | 600 x 300      | 6, 8 dia.                         | 152, 203 dia.                               | 6 x 6, 8 x 8                                                       | 152 x 152, 203 x 203                                                                   |
| 20 x 20           | 500 x 500      | 6, 8, 10, 12, 14 dia.             | 152, 203, 254, 305, 356 dia.                | 6 x 6, 8 x 8, 10 x 10, 12 x 12                                     | 152 x 152, 203 x 203, 254 x 254, 305 x 305                                             |
| 24 x 24           | 600 x 600      | 6, 8, 10, 12, 14, 15, 16, 18 dia. | 152, 203, 254, 305, 356, 381, 406, 457 dia. | 6 x 6, 8 x 8, 10 x 10, 12 x 12, 14 x 14, 15 x 15, 16 x 16, 18 x 18 | 152 x 152, 203 x 203, 254 x 254, 305 x 305, 356 x 356, 381 x 381, 406 x 406, 457 x 457 |

## Dimensional Data and Frame Types

Models 4320CB, 4320CBA, 4320CBAA • Supply • Flush Face



Models 4325CB, 4325CBA, 4325CBAA • Supply • Drop Face





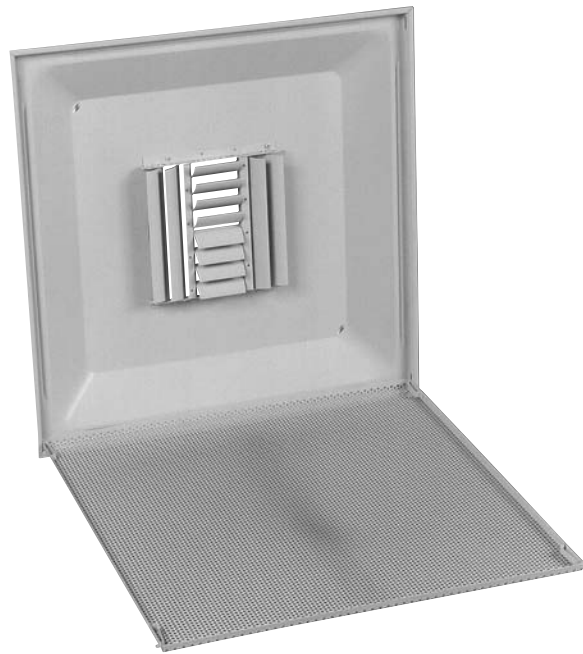
## Model Series 4320CB • Adjusting Pattern Controllers

### Removing Perforated Face

The **4300 Series** is supplied with a removable face plate that is retained in place by four spring-loaded latches, one located in each corner of the diffuser.

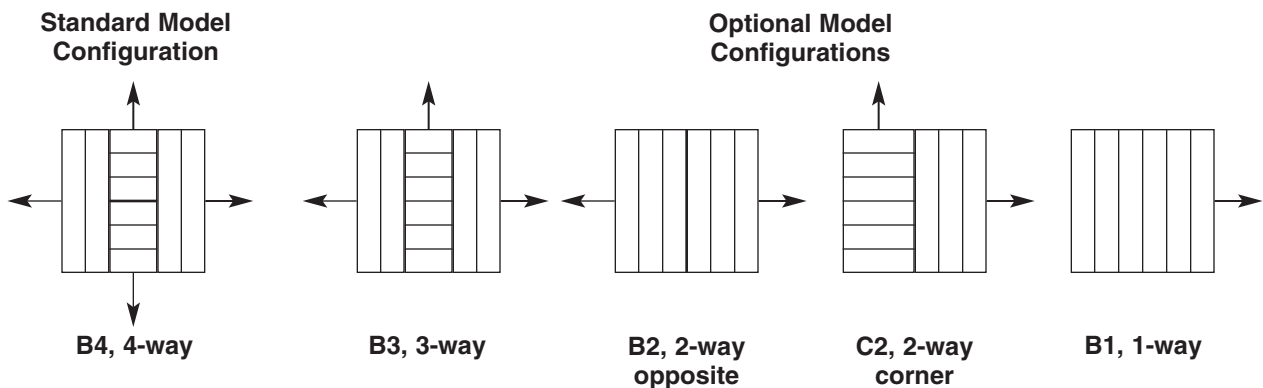
1. Insert a small screwdriver through a perforated hole in the edge of the face plate and push the spring-loaded latch inward from diffuser frame to release face.
2. Repeat procedure on the opposite side.
3. The face plate will now swing down, using the two remaining latches as hinges. The face may be completely removed by depressing in a similar manner, the two remaining latches.
4. To close; lift perforated face, depress spring latches with fingers and snap in place.

The pattern controller in the neck of the diffuser features individually adjustable deflector blades which may be used to vary the discharge pattern from full horizontal to vertical. Each blade is friction pivoted using a tension wire which securely holds its position after adjustment.



Round or Square Neck • 4-way Pattern

### Pattern Controller Options



The **4320CB Series** is supplied with this style of pattern controller unless specified otherwise.



## HOW TO SPECIFY OR TO ORDER

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

### Perforated Curved Blade Supply Ceiling Diffusers – Model Series 4320CB

**4320CB - 08 - 24 x 24 - L - AW - B4 - -**

#### MODEL

|                 |            |          |
|-----------------|------------|----------|
| - Steel         | Flush Face | 4320CB   |
|                 | Drop Face  | 4325CB   |
| - Aluminum Face | Flush Face | 4320CBA  |
|                 | Drop Face  | 4325CBA  |
| - Aluminum      | Flush Face | 4320CBAA |
|                 | Drop Face  | 4325CBAA |

#### NECK SIZE (inches)

##### Round

06, 08, 10, 12, 14, 15, 16, 18

##### Square

6 x 6, 8 x 8, 10 x 10, 12 x 12,  
14 x 14, 15 x 15, 16 x 16,  
18 x 18

#### CEILING MODULE

##### Imperial (inches)    Metric (mm)

|           |           |
|-----------|-----------|
| - 12 x 12 | 300 x 300 |
| - 16 x 16 | 400 x 400 |
| - 24 x 12 | 600 x 300 |
| - 20 x 20 | 500 x 500 |
| - 24 x 24 | 600 x 600 |

#### FRAME TYPE

|                     |    |
|---------------------|----|
| - Lay-in T-Bar      | L  |
| - Surface Mount     | S  |
| - Spline            | SP |
| - Metal Pan Snap-in | M  |
| - Fineline®         | F  |

#### ACCESSORIES

|                                 |     |
|---------------------------------|-----|
| - None (default)                | —   |
| - External Foil Back Insulation | EX  |
| - Earthquake Tabs               | EQT |

#### AIR BALANCING DEVICES

##### Round Neck

|                               |      |
|-------------------------------|------|
| - Radial Sliding Blade Damper | 4250 |
| - Radial Opposed Blade Damper | 4275 |
| - Butterfly Damper            | 4675 |
| - Equalizing Grid             | EGR  |
| - Damper/Equalizing Grid      | DEGR |

##### Square Neck

|                          |      |
|--------------------------|------|
| - Opposed Blade Damper   | OBD  |
| - Equalizing Grid        | EGL  |
| - Damper/Equalizing Grid | DEGL |

#### BLOW PATTERN

|                   |    |
|-------------------|----|
| - 4-Way (default) | B4 |
| - 3-Way           | B3 |
| - 2-Way Opposite  | B2 |
| - 2-Way Corner    | C2 |
| - 1-Way           | B1 |

#### FINISH

|                             |    |
|-----------------------------|----|
| - Appliance White (default) | AW |
| - Special                   | SP |
| - AW Face/Black Backpan     | BA |

**D**

**CEILING DIFFUSERS**

#### Notes:

1. Consult individual models as to limitations and availability of ceiling module and neck size combinations.
2. If more than one accessory is required, list in order.

## SUGGESTED SPECIFICATION:

### Models 4320CB, 4325CB – Steel

Furnish and install **Nailor Model** (select one) **4320CB Flush Face** or **4325CB Drop Face, Perforated Supply Curved Blade Ceiling Diffusers** of the sizes and capacities as shown on the plans and air distribution schedules. The diffuser shall have a heavy gauge, stamped corrosion-resistant steel backpan with a round or square neck as specified. A corrosion-resistant steel perforated face shall have 3/16" (5) dia. holes on 1/4" (6) staggered centers, providing 51% free area. Mounted on the neck of the diffuser shall be a factory installed curved blade pack with individually adjustable blades configured for a 4-way (standard) throw. (Optional) Factory installed 3, 2 or 1-way (select one) pattern to be supplied. The face shall be removable, hinged and include quick-release spring latches allowing easy access for cleaning and adjusting the deflectors (or optional damper). The finish shall be AW Appliance White baked enamel (optional finishes are available).

The manufacturer shall provide published performance data for the diffuser, which shall be tested in accordance with ANSI/ASHRAE Standard 70 – 1991.

### Models 4320CBA, 4325CBA – Aluminum Face

Furnish and install **Nailor Model** (select one) **4320CBA Flush Face** or **4325CBA Drop Face, Perforated Supply Curved Blade Ceiling Diffusers** of the sizes and capacities as shown on the plans and air distribution schedules. The diffuser shall have a heavy gauge, stamped corrosion-resistant steel backpan with a round or square neck as specified. An aluminum perforated face shall have 3/16" (5) dia. holes on 1/4" (6) staggered centers, providing 51% free area. Mounted on the neck of the diffuser shall be a factory installed curved blade pack with individually adjustable blades configured for a 4-way (standard) throw. (Optional) Factory installed 3, 2 or 1-way (select one) pattern to be supplied. The face shall be removable, hinged and include quick-release spring latches allowing easy access for cleaning and adjusting the deflectors (or optional damper). The finish shall be AW Appliance White baked enamel (optional finishes are available).

The manufacturer shall provide published performance data for the diffuser, which shall be tested in accordance with ANSI/ASHRAE Standard 70 – 1991.

### Models 4320CBAA, 4325CBAA – Aluminum

Furnish and install **Nailor Model** (select one) **4320CBAA Flush Face** or **4325CBAA Drop Face, Perforated Supply Curved Blade Ceiling Diffusers** of the sizes and capacities as shown on the plans and air distribution schedules. The diffuser shall have a stamped aluminum backpan with a round or square neck as specified. An aluminum perforated face shall have 3/16" (5) dia. holes on 1/4" (6) staggered centers, providing 51% free area. Mounted on the neck of the diffuser shall be a factory installed curved blade pack with individually adjustable blades configured for a 4-way (standard) throw. (Optional) Factory installed 3, 2 or 1-way (select one) pattern to be supplied. The face shall be removable, hinged and include quick-release spring latches allowing easy access for cleaning and adjusting the deflectors (or optional damper). The finish shall be AW Appliance White baked enamel (optional finishes are available).

The manufacturer shall provide published performance data for the diffuser, which shall be tested in accordance with ANSI/ASHRAE Standard 70 – 1991.

## Performance Data

### Models 4320CB, 4320CBA, 4320CBAA • 12 x 12 (300 x 300) Module Size

| Nominal Neck Size | Neck Velocity, FPM | 300    | 400    | 500     | 600     | 700     | 800      | 900      |
|-------------------|--------------------|--------|--------|---------|---------|---------|----------|----------|
|                   | VP                 | .006   | .010   | .016    | .023    | .031    | .040     | .051     |
|                   | TP                 | .030   | .052   | .082    | .118    | .162    | .211     | .267     |
| 6" Dia.           | Flow Rate, CFM     | 60     | 80     | 95      | 115     | 135     | 155      | 175      |
|                   | T 4-Way            | 1-2-4  | 2-3-6  | 2-4-7   | 3-5-7   | 3-5-8   | 4-6-9    | 5-6-9    |
|                   | T 3-Way            | 2-3-6  | 2-4-8  | 3-5-11  | 4-6-12  | 5-7-13  | 5-8-14   | 6-10-15  |
|                   | T 2-Way            | 2-4-8  | 3-5-11 | 4-6-13  | 5-8-15  | 6-9-16  | 7-11-18  | 8-12-20  |
|                   | T 1-Way            | 3-4-9  | 4-6-12 | 5-8-16  | 6-9-18  | 7-11-20 | 8-12-22  | 9-14-23  |
|                   | NC                 | —      | 20     | 25      | 30      | 35      | 39       | 42       |
| 8" Dia.           | Flow Rate, CFM     | 105    | 140    | 175     | 210     | 245     | 280      | 315      |
|                   | T 4-Way            | 2-3-6  | 2-4-8  | 3-5-9   | 4-6-10  | 4-7-11  | 4-8-12   | 5-9-12   |
|                   | T 3-Way            | 2-3-7  | 3-4-9  | 3-5-11  | 4-7-12  | 5-8-13  | 6-9-14   | 7-10-14  |
|                   | T 2-Way            | 3-4-9  | 4-6-13 | 5-8-15  | 6-9-17  | 7-11-18 | 8-13-20  | 9-14-21  |
|                   | T 1-Way            | 3-5-11 | 5-7-15 | 6-9-18  | 7-11-21 | 8-13-22 | 10-15-24 | 11-17-25 |
|                   | NC                 | —      | 21     | 27      | 33      | 37      | 41       | 44       |
| 6 x 6             | Flow Rate, CFM     | 75     | 100    | 125     | 150     | 175     | 200      | 225      |
|                   | T 4-Way            | 1-2-5  | 2-3-7  | 3-4-8   | 3-5-8   | 4-6-9   | 5-7-10   | 5-7-11   |
|                   | T 3-Way            | 2-3-6  | 2-4-8  | 3-5-11  | 4-6-12  | 5-7-13  | 5-8-14   | 6-10-15  |
|                   | T 2-Way            | 3-4-9  | 4-6-12 | 5-7-15  | 6-9-17  | 7-10-20 | 8-12-21  | 9-14-22  |
|                   | T 1-Way            | 3-5-10 | 4-7-14 | 6-9-18  | 7-10-21 | 8-12-23 | 9-14-24  | 10-16-26 |
|                   | NC                 | —      | —      | 25      | 30      | 34      | 38       | 41       |
| 8 x 8             | Flow Rate, CFM     | 135    | 175    | 220     | 265     | 310     | 355      | 400      |
|                   | T 4-Way            | 2-3-6  | 3-4-9  | 3-5-10  | 4-6-11  | 5-8-12  | 6-9-13   | 6-10-14  |
|                   | T 3-Way            | 2-3-7  | 3-5-10 | 4-6-12  | 5-7-13  | 6-9-14  | 7-10-15  | 7-11-16  |
|                   | T 2-Way            | 3-5-11 | 4-7-14 | 6-9-17  | 7-11-20 | 8-13-21 | 9-14-23  | 11-16-24 |
|                   | T 1-Way            | 4-6-12 | 5-8-17 | 7-10-21 | 8-12-23 | 9-14-25 | 11-17-27 | 12-20-28 |
|                   | NC                 | —      | 21     | 28      | 34      | 38      | 42       | 45       |

### Models 4320CB, 4320CBA, 4320CBAA • 24 x 12 (600 x 300) Module Size

| Nominal Neck Size | Neck Velocity, FPM | 300    | 400    | 500     | 600     | 700     | 800      | 900      |
|-------------------|--------------------|--------|--------|---------|---------|---------|----------|----------|
|                   | VP                 | .006   | .010   | .016    | .023    | .031    | .040     | .051     |
|                   | TP                 | .030   | .052   | .082    | .118    | .162    | .211     | .267     |
| 6" Dia.           | Flow Rate, CFM     | 60     | 80     | 95      | 115     | 135     | 155      | 175      |
|                   | T 4-Way            | 1-2-4  | 2-3-6  | 2-4-7   | 3-5-7   | 3-5-8   | 4-6-9    | 5-6-9    |
|                   | T 3-Way            | 2-3-6  | 2-4-8  | 3-5-11  | 4-6-12  | 5-7-13  | 5-8-14   | 6-10-15  |
|                   | T 2-Way            | 2-4-8  | 3-5-11 | 4-6-13  | 5-8-15  | 6-9-16  | 7-11-18  | 8-12-20  |
|                   | T 1-Way            | 3-4-9  | 4-6-12 | 5-8-16  | 6-9-18  | 7-11-20 | 8-12-22  | 9-14-23  |
|                   | NC                 | —      | 20     | 25      | 30      | 35      | 39       | 42       |
| 8" Dia.           | Flow Rate, CFM     | 105    | 140    | 175     | 210     | 245     | 280      | 315      |
|                   | T 4-Way            | 2-3-6  | 2-4-8  | 3-5-9   | 4-6-10  | 4-7-11  | 4-8-12   | 5-9-12   |
|                   | T 3-Way            | 2-3-7  | 3-4-9  | 3-5-11  | 4-7-12  | 5-8-13  | 6-9-14   | 7-10-14  |
|                   | T 2-Way            | 3-4-9  | 4-6-13 | 5-8-15  | 6-9-17  | 7-11-18 | 8-13-20  | 9-14-21  |
|                   | T 1-Way            | 3-5-11 | 5-7-15 | 6-9-18  | 7-11-21 | 8-13-22 | 10-15-24 | 11-17-25 |
|                   | NC                 | —      | 21     | 27      | 33      | 37      | 41       | 44       |
| 6 x 6             | Flow Rate, CFM     | 75     | 100    | 125     | 150     | 175     | 200      | 225      |
|                   | T 4-Way            | 1-2-5  | 2-3-7  | 3-4-8   | 3-5-8   | 4-6-9   | 5-7-10   | 5-7-11   |
|                   | T 3-Way            | 2-3-6  | 2-4-8  | 3-5-11  | 4-6-12  | 5-7-13  | 5-8-14   | 6-10-15  |
|                   | T 2-Way            | 3-4-9  | 4-6-12 | 5-7-15  | 6-9-17  | 7-10-20 | 8-12-21  | 9-14-22  |
|                   | T 1-Way            | 3-5-10 | 4-7-14 | 6-9-18  | 7-10-21 | 8-12-23 | 9-14-24  | 10-16-26 |
|                   | NC                 | —      | —      | 25      | 30      | 34      | 38       | 41       |
| 8 x 8             | Flow Rate, CFM     | 135    | 175    | 220     | 265     | 310     | 355      | 400      |
|                   | T 4-Way            | 2-3-6  | 3-4-9  | 3-5-10  | 4-6-11  | 5-8-12  | 6-9-13   | 6-10-14  |
|                   | T 3-Way            | 2-3-7  | 3-5-10 | 4-6-12  | 5-7-13  | 6-9-14  | 7-10-15  | 7-11-16  |
|                   | T 2-Way            | 3-5-11 | 4-7-14 | 6-9-17  | 7-11-20 | 8-13-21 | 9-14-23  | 11-16-24 |
|                   | T 1-Way            | 4-6-12 | 5-8-17 | 7-10-21 | 8-12-23 | 9-14-25 | 11-17-27 | 12-20-28 |
|                   | NC                 | —      | 21     | 28      | 34      | 38      | 42       | 45       |

For performance notes, see page D155.

## Performance Data

Models 4320CB, 4320CBA, 4320CBAA • 24 x 24 (600 x 600) Module Size • Round Neck

| Nominal Neck Size | Neck Velocity, FPM | 300     | 400      | 500      | 600      | 700      | 800      | 900      |
|-------------------|--------------------|---------|----------|----------|----------|----------|----------|----------|
|                   | VP                 | .006    | .010     | .016     | .023     | .031     | .040     | .051     |
|                   | TP                 | .030    | .052     | .082     | .118     | .162     | .211     | .267     |
| 6" Dia.           | Flow Rate, CFM     | 60      | 80       | 95       | 115      | 135      | 155      | 175      |
|                   | 4-Way              | 1-2-4   | 2-3-6    | 2-3-7    | 3-4-7    | 3-5-8    | 4-6-9    | 4-6-9    |
|                   | 3-Way              | 1-2-5   | 2-3-7    | 2-4-8    | 3-5-9    | 4-6-9    | 4-7-10   | 5-7-11   |
|                   | 2-Way              | 2-3-7   | 3-4-9    | 4-6-11   | 4-7-12   | 5-8-13   | 6-9-14   | 7-11-15  |
|                   | 1-Way              | 2-4-8   | 3-5-11   | 4-7-13   | 5-8-15   | 6-9-16   | 7-11-17  | 8-12-18  |
|                   | NC                 | —       | 17       | 23       | 28       | 32       | 36       | 39       |
| 8" Dia.           | Flow Rate, CFM     | 105     | 140      | 175      | 210      | 245      | 280      | 315      |
|                   | 4-Way              | 2-3-6   | 2-4-8    | 3-5-9    | 4-6-10   | 4-7-11   | 4-8-12   | 5-9-12   |
|                   | 3-Way              | 2-3-7   | 3-4-9    | 3-5-11   | 4-7-12   | 5-8-13   | 6-9-14   | 7-10-14  |
|                   | 2-Way              | 3-4-9   | 4-6-13   | 5-8-15   | 6-9-17   | 7-11-18  | 8-13-20  | 9-14-21  |
|                   | 1-Way              | 3-5-11  | 5-7-15   | 6-9-18   | 7-11-21  | 8-13-22  | 10-15-24 | 11-17-25 |
|                   | NC                 | 12      | 20       | 26       | 31       | 35       | 39       | 42       |
| 10" Dia.          | Flow Rate, CFM     | 165     | 215      | 270      | 325      | 380      | 435      | 490      |
|                   | 4-Way              | 2-3-7   | 3-5-10   | 4-6-12   | 5-7-13   | 5-8-14   | 6-10-15  | 7-11-16  |
|                   | 3-Way              | 2-4-8   | 3-5-11   | 4-7-13   | 5-8-15   | 6-10-16  | 7-11-17  | 8-13-18  |
|                   | 2-Way              | 4-6-12  | 5-8-16   | 6-10-20  | 8-12-22  | 9-14-23  | 10-16-25 | 12-18-27 |
|                   | 1-Way              | 4-7-14  | 6-9-18   | 7-11-23  | 9-14-26  | 11-16-28 | 12-18-29 | 14-22-31 |
|                   | NC                 | 14      | 22       | 28       | 33       | 37       | 41       | 44       |
| 12" Dia.          | Flow Rate, CFM     | 235     | 315      | 390      | 470      | 550      | 625      | 705      |
|                   | 4-Way              | 3-4-9   | 4-6-12   | 5-7-14   | 6-9-15   | 7-10-17  | 8-12-18  | 9-13-20  |
|                   | 3-Way              | 3-5-10  | 4-7-14   | 5-8-16   | 7-10-18  | 8-12-20  | 9-14-22  | 10-15-23 |
|                   | 2-Way              | 4-7-14  | 6-9-20   | 8-12-24  | 9-14-26  | 11-17-28 | 13-20-30 | 14-23-32 |
|                   | 1-Way              | 5-8-17  | 7-11-23  | 9-14-28  | 11-17-31 | 13-20-33 | 15-23-35 | 17-26-37 |
|                   | NC                 | 16      | 24       | 30       | 35       | 39       | 43       | 46       |
| 14" Dia.          | Flow Rate, CFM     | 320     | 425      | 535      | 640      | 750      | 855      | 960      |
|                   | 4-Way              | 3-5-10  | 4-7-14   | 5-8-16   | 7-10-18  | 8-12-21  | 9-14-22  | 10-16-23 |
|                   | 3-Way              | 4-6-12  | 5-8-16   | 6-10-20  | 8-12-22  | 9-14-24  | 10-16-25 | 12-18-27 |
|                   | 2-Way              | 5-8-17  | 7-11-24  | 9-14-28  | 11-17-30 | 13-21-33 | 15-24-35 | 17-26-37 |
|                   | 1-Way              | 6-9-20  | 8-13-27  | 11-16-33 | 13-20-36 | 15-24-38 | 17-27-41 | 20-30-43 |
|                   | NC                 | 19      | 27       | 33       | 37       | 42       | 46       | 49       |
| 15" Dia.          | Flow Rate, CFM     | 370     | 490      | 615      | 740      | 860      | 985      | 1100     |
|                   | 4-Way              | 3-6-10  | 4-2-14   | 5-8-17   | 8-10-19  | 8-13-21  | 10-14-23 | 10-16-24 |
|                   | 3-Way              | 4-6-12  | 6-8-17   | 6-11-21  | 8-13-22  | 10-14-25 | 11-16-26 | 13-18-28 |
|                   | 2-Way              | 4-8-17  | 7-12-25  | 9-15-30  | 11-18-31 | 13-22-34 | 16-25-35 | 17-27-38 |
|                   | 1-Way              | 6-9-20  | 8-14-28  | 12-17-34 | 14-21-37 | 16-24-39 | 18-27-42 | 17-31-43 |
|                   | NC                 | 20      | 28       | 34       | 38       | 43       | 47       | 50       |
| 16" Dia.          | Flow Rate, CFM     | 420     | 560      | 700      | 835      | 975      | 1115     | 1255     |
|                   | 4-Way              | 4-6-12  | 5-8-16   | 6-10-20  | 8-12-22  | 9-14-23  | 10-16-25 | 12-18-26 |
|                   | 3-Way              | 4-7-14  | 6-9-18   | 7-11-23  | 9-14-25  | 10-16-27 | 12-18-29 | 14-22-30 |
|                   | 2-Way              | 6-9-20  | 8-13-27  | 10-16-32 | 13-20-35 | 15-24-37 | 17-27-40 | 20-30-42 |
|                   | 1-Way              | 7-11-23 | 10-15-31 | 12-18-37 | 15-23-41 | 17-27-44 | 21-31-47 | 23-35-50 |
|                   | NC                 | 21      | 29       | 35       | 39       | 44       | 48       | 51       |
| 18" Dia.          | Flow Rate, CFM     | 530     | 705      | 885      | 1060     | 1235     | 1415     | 1590     |
|                   | 4-Way              | 4-7-14  | 5-9-18   | 7-10-20  | 9-13-24  | 10-16-26 | 10-19-28 | 13-21-29 |
|                   | 3-Way              | 4-7-17  | 6-10-21  | 8-12-24  | 10-15-28 | 11-20-30 | 13-22-32 | 17-24-34 |
|                   | 2-Way              | 7-10-23 | 10-14-29 | 11-17-34 | 15-22-36 | 18-28-43 | 20-30-44 | 24-34-50 |
|                   | 1-Way              | 8-12-26 | 11-17-33 | 14-21-40 | 18-25-45 | 21-32-50 | 23-38-53 | 29-40-56 |
|                   | NC                 | 23      | 31       | 37       | 41       | 46       | 50       | 53       |

For performance notes, see page D155.

## Performance Data

### Models 4320CB, 4320CBA, 4320CBAA • 24 x 24 (600 x 600) Module Size • Square Neck

| Nominal Neck Size | Neck Velocity, FPM | 300   | 400     | 500      | 600      | 700      | 800      | 900      |
|-------------------|--------------------|-------|---------|----------|----------|----------|----------|----------|
|                   | VP                 | .006  | .010    | .016     | .023     | .031     | .040     | .051     |
|                   | TP                 | .028  | .050    | .079     | .113     | .155     | .202     | .256     |
| 6 x 6             | Flow Rate, CFM     | 75    | 100     | 125      | 150      | 175      | 200      | 225      |
|                   | T                  | 4-Way | 1-2-5   | 2-3-7    | 3-4-8    | 4-6-9    | 5-7-10   | 5-7-11   |
|                   |                    | 3-Way | 2-3-6   | 2-4-8    | 3-5-11   | 4-6-12   | 5-8-14   | 6-10-15  |
|                   |                    | 2-Way | 3-4-9   | 4-6-12   | 5-7-15   | 6-9-17   | 7-10-20  | 8-12-21  |
|                   |                    | 1-Way | 3-5-10  | 4-7-14   | 6-9-18   | 7-10-21  | 8-12-23  | 9-14-24  |
|                   | NC                 | —     | 18      | 24       | 29       | 33       | 37       | 40       |
| 8 x 8             | Flow Rate, CFM     | 135   | 175     | 220      | 265      | 310      | 355      | 400      |
|                   | T                  | 4-Way | 2-3-6   | 3-4-9    | 3-5-10   | 4-6-11   | 5-8-12   | 6-9-13   |
|                   |                    | 3-Way | 2-3-7   | 3-5-10   | 4-6-12   | 5-7-13   | 6-9-14   | 7-10-15  |
|                   |                    | 2-Way | 3-5-11  | 4-7-14   | 6-9-17   | 7-11-20  | 8-13-21  | 9-14-23  |
|                   |                    | 1-Way | 4-6-12  | 5-8-17   | 7-10-21  | 8-12-23  | 9-14-25  | 11-17-27 |
|                   | NC                 | 13    | 21      | 27       | 32       | 36       | 40       | 43       |
| 10 x 10           | Flow Rate, CFM     | 210   | 275     | 345      | 415      | 485      | 555      | 625      |
|                   | T                  | 4-Way | 2-4-8   | 3-5-11   | 4-7-13   | 5-8-14   | 6-10-16  | 7-11-17  |
|                   |                    | 3-Way | 3-4-9   | 4-6-13   | 5-8-15   | 6-9-17   | 7-11-18  | 8-13-20  |
|                   |                    | 2-Way | 4-6-13  | 6-9-18   | 7-11-22  | 9-13-25  | 10-16-26 | 12-18-28 |
|                   |                    | 1-Way | 5-8-16  | 7-10-22  | 8-13-26  | 10-16-29 | 12-18-31 | 14-22-33 |
|                   | NC                 | 15    | 23      | 29       | 34       | 38       | 42       | 45       |
| 12 x 12           | Flow Rate, CFM     | 300   | 400     | 500      | 600      | 700      | 800      | 900      |
|                   | T                  | 4-Way | 3-5-10  | 4-6-13   | 5-8-16   | 6-10-17  | 8-12-20  | 9-13-21  |
|                   |                    | 3-Way | 3-5-11  | 5-7-15   | 6-9-18   | 7-11-21  | 9-13-23  | 10-15-24 |
|                   |                    | 2-Way | 5-8-16  | 7-11-23  | 9-13-27  | 11-16-29 | 13-20-32 | 14-23-34 |
|                   |                    | 1-Way | 6-9-20  | 8-12-26  | 10-16-31 | 12-20-34 | 14-23-37 | 17-26-40 |
|                   | NC                 | 17    | 23      | 31       | 36       | 40       | 44       | 47       |
| 14 x 14           | Flow Rate, CFM     | 410   | 545     | 680      | 815      | 955      | 1090     | 1360     |
|                   | T                  | 4-Way | 1-1-6   | 1-3-8    | 2-4-11   | 3-6-13   | 4-7-15   | 5-8-17   |
|                   |                    | 3-Way | 1-3-10  | 2-6-14   | 4-9-18   | 6-10-21  | 8-12-26  | 9-14-29  |
|                   |                    | 2-Way | 2-5-14  | 4-9-19   | 7-12-24  | 9-14-30  | 11-17-35 | 13-19-40 |
|                   |                    | 1-Way | 3-8-17  | 6-11-23  | 9-14-30  | 11-17-36 | 13-20-42 | 15-23-48 |
|                   | NC                 | 20    | 28      | 34       | 38       | 43       | 47       | 50       |
| 15 x 15           | Flow Rate, CFM     | 470   | 625     | 780      | 935      | 1095     | 1250     | 1405     |
|                   | T                  | 4-Way | 4-6-12  | 5-8-17   | 7-10-21  | 8-12-23  | 10-15-25 | 11-17-26 |
|                   |                    | 3-Way | 4-7-14  | 6-9-20   | 8-12-24  | 9-14-26  | 11-17-28 | 13-20-30 |
|                   |                    | 2-Way | 6-10-21 | 9-13-28  | 11-17-33 | 13-21-37 | 16-25-40 | 18-28-42 |
|                   |                    | 1-Way | 8-12-25 | 10-16-33 | 13-21-39 | 16-25-43 | 18-29-46 | 22-33-49 |
|                   | NC                 | 21    | 29      | 35       | 39       | 44       | 48       | 51       |
| 16 x 16           | Flow Rate, CFM     | 530   | 710     | 890      | 1065     | 1245     | 1420     | 1600     |
|                   | T                  | 4-Way | 4-7-14  | 5-9-18   | 7-10-20  | 9-13-24  | 10-16-26 | 10-19-28 |
|                   |                    | 3-Way | 4-7-17  | 6-10-21  | 8-12-24  | 10-15-28 | 11-20-30 | 13-22-32 |
|                   |                    | 2-Way | 7-10-23 | 10-14-29 | 11-17-34 | 15-22-36 | 18-28-43 | 20-30-44 |
|                   |                    | 1-Way | 8-12-26 | 11-17-33 | 14-21-40 | 18-25-45 | 21-32-50 | 23-38-53 |
|                   | NC                 | 22    | 30      | 36       | 40       | 45       | 49       | 52       |
| 18 x 18           | Flow Rate, CFM     | 675   | 900     | 1125     | 1350     | 1575     | 1800     | 2025     |
|                   | T                  | 4-Way | 5-7-15  | 6-10-21  | 8-12-25  | 10-15-27 | 12-18-30 | 13-21-32 |
|                   |                    | 3-Way | 5-8-17  | 7-11-24  | 9-14-29  | 11-17-32 | 13-22-34 | 15-24-36 |
|                   |                    | 2-Way | 8-12-26 | 11-16-34 | 13-21-40 | 16-26-44 | 20-30-47 | 23-34-50 |
|                   |                    | 1-Way | 9-14-29 | 12-20-39 | 16-25-47 | 20-29-52 | 23-34-56 | 26-39-60 |
|                   | NC                 | 24    | 32      | 38       | 42       | 47       | 51       | 54       |

**CFM** - cubic feet per minute

**FPM** - feet per minute velocity

**TP** - total pressure - inches w.g.

**VP** - velocity pressure - inches w.g.

**T** - throw in feet

**NC** - Noise Criteria (values) based on 10 dB room absorption, re 10<sup>-12</sup> watts.

#### Performance Notes:

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

2. Data derived from tests conducted in accordance with ANSI/ASHRAE Standard 70 – 1991.

#### Balancing:

It is recommended that a commercially available 'Flow Hood' is used for field balancing. The airflow meter directly reads average flow rate with great accuracy at all volumes. It is a much faster and more accurate alternative to time consuming multiple velocity readings, eliminating the use of Ak factors and the calculations required to convert the average velocity into airflow.

## PERFORATED CURVED BLADE DIFFUSERS

- SUPPLY
- SURFACE MOUNT
- FULL FACE SQUARE NECK
- 4-WAY ADJUSTABLE DISCHARGE PATTERN (STANDARD)
- 1, 2 OR 3-WAY DISCHARGE PATTERN (OPTIONAL)

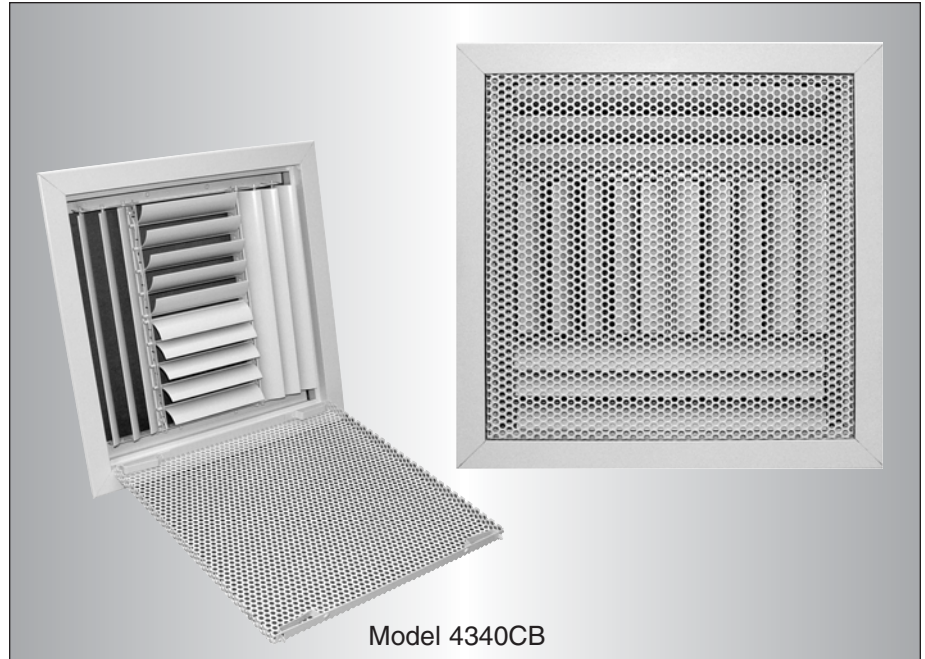
**Steel Face Model:**

**4340CB**

**Aluminum Model:**

**4340CBA**

- Suffix '-O' adds a steel opposed blade damper



The **Nailor 4340CB Curved Blade Diffusers** are designed to compliment the Nailor 4320CB curved blade ceiling diffusers and feature the same individually adjustable, friction pivoted curved blade pattern controllers. Designed to maximize throw, they project a tight, uniform horizontal blanket of air over a wide range of air volumes and provide excellent performance in VAV systems.

The **4340CB** is a square neck grille frame style design, featuring full face pattern controllers, for surface mount installation in hard ceilings. A 4-way adjustable discharge pattern is standard. The pattern controllers may also be used to damper the air volume and by closing them off in one or more directions, directional control can also be achieved. Also available with a factory supplied optional 1, 2 or 3-way adjustable discharge pattern controller.

### FEATURES:

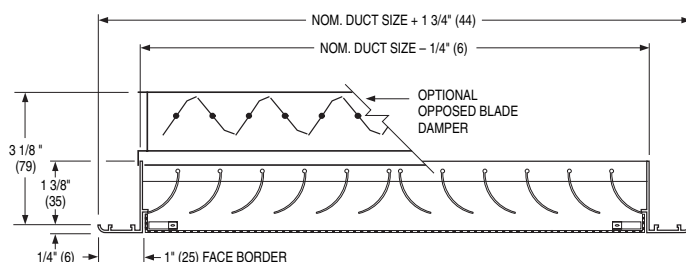
- Available in nominal duct sizes from 6" x 6" (152 x 152) to 24" x 24" (610 x 610) in 2" (51) increments.
- Curved blades on 1" (25) centers are individually adjustable and regulate angle of discharge.
- Frame is mechanically interlocked for strength with hairline mitered corners. Standard diffuser has a 4-way (B4) discharge pattern.
- Removable face has concealed latches for easy access to core.
- Perforated face has 3/16" (5) diameter holes on 1/4" (6) staggered centers, providing 51% free area.
- Type N standard fastening is with sheet metal screws (by others), through the neck of the diffuser outer frame. Optional Type A countersunk screwholes on face of outer frame.
- Dropping the perforated face gives access to the optional opposed blade damper.
- Return models (**4340R Series**) have the same face and frame construction as the supply models to match the appearance.

**Material:** Extruded aluminum blades and frame. Corrosion-resistant steel or aluminum perforated face depending on model selection.

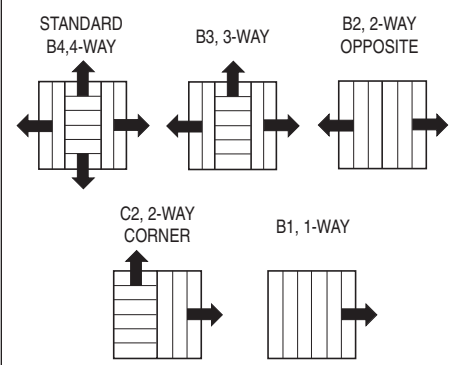
**Finish:** AW Appliance White baked enamel finish is standard. Other finishes are available.

### Dimensional Data

#### Type S Surface Mount



### Pattern Controller Options





## HOW TO SPECIFY OR TO ORDER

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

### Perforated Full Face Curved Blade Supply Ceiling Diffusers – Model Series 4340CB

**4340CB - - - 12 x 12 - S - AW - N - B4 - -**

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>MODEL</b> _____</p> <p>- Steel Face                      4340CB</p> <p>- Aluminum                      4340CBA</p> <p><b>DAMPER</b> _____</p> <p>- No Damper (default)                      -</p> <p>- Opposed Blade Damper                      O</p> <p><b>NECK SIZE (inches)</b> _____</p> <p>6 x 6, 8 x 8, 10 x 10, 12 x 12,<br/>14 x 14, 16 x 16, 18 x 18,<br/>20 x 20, 22 x 22, 24 x 24</p> <p><b>FRAME TYPE</b> _____</p> <p>- Surface Mount (default)                      S</p> | <p><b>ACCESSORIES</b></p> <p>- None (default)                      —</p> <p>- Foam Gasket                      GK</p> <p>- Earthquake Tabs                      EQT</p> <p><b>AIR BALANCING DEVICES</b></p> <p>- Equalizing Grid                      EGL</p> <p>- Damper/Equalizing Grid                      DEGL</p> <p><b>BLOW PATTERN</b></p> <p>- 4-Way (default)                      B4</p> <p>- 3-Way                      B3</p> <p>- 2-Way Opposite                      B2</p> <p>- 2-Way Corner                      C2</p> <p>- 1-Way                      B1</p> <p><b>FASTENING</b></p> <p>- None (default)                      N<br/>(installs through neck of frame)</p> <p>- Countersunk holes on outer frame                      A</p> <p><b>FINISH</b></p> <p>- Appliance White (default)                      AW</p> <p>- Special Custom Color                      SP</p> |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

**D**  
**CEILING DIFFUSERS**

#### Notes:

1. If more than one accessory is required, list in order.

#### SUGGESTED SPECIFICATION:

Furnish and install **Nailor Model** (select one) **4340CB** (aluminum with corrosion-resistant steel face) or **4340CBA** (aluminum) **Perforated Full Face Curved Blade Supply Ceiling Diffusers** of the sizes and capacities as shown on the plans and air distribution schedules. The diffuser shall have a mechanically interlocked extruded aluminum frame with hairline mitered corners. An extruded aluminum blade pack with individually adjustable curved blades on 1" (25) centers shall be sized according to the square neck size as specified. The diffuser shall have a 4-way (standard), 3-way, 2-way, 1-way (select one) discharge pattern. A perforated face shall have 3/16" (5) dia. holes on 1/4" (6) staggered centers, providing 51% free area. The face shall be removable, hinged and include quick-release spring latches allowing easy access for cleaning and adjusting the deflectors (or optional damper). The diffuser shall be fastened through the neck with sheet metal screws. The finish shall be AW Appliance White baked enamel (optional finishes are available).

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

The manufacturer shall provide published performance data for the diffuser, which shall be tested in accordance with ANSI/ASHRAE Standard 70 – 1991.



## Performance Data

### Models 4340CB, 4340CBA • Surface Mount • Square Neck

| Nominal Neck Size | Neck Velocity, FPM | 200   | 300     | 400      | 500      | 600      | 700      | 800      | 900      |
|-------------------|--------------------|-------|---------|----------|----------|----------|----------|----------|----------|
|                   | VP                 | .003  | .006    | .010     | .016     | .022     | .031     | .040     | .050     |
|                   | TP                 | .014  | .032    | .057     | .089     | .129     | .175     | .229     | .290     |
| 6 x 6             | Flow Rate, CFM     | 50    | 75      | 100      | 125      | 150      | 175      | 200      | 225      |
|                   | T                  | 4-Way | 1-1-3   | 2-3-4    | 3-4-5    | 3-5-6    | 4-5-7    | 4-6-8    | 5-7-9    |
|                   |                    | 3-Way | 1-2-3   | 2-3-4    | 3-5-6    | 4-5-7    | 5-7-9    | 6-8-10   | 6-9-12   |
|                   |                    | 2-Way | 2-3-4   | 3-4-5    | 4-5-7    | 5-7-9    | 6-9-12   | 7-10-13  | 8-12-15  |
|                   |                    | 1-Way | 3-4-5   | 4-5-7    | 5-7-9    | 6-8-11   | 7-11-14  | 8-12-16  | 9-14-18  |
|                   | NC                 | -     | 21      | 25       | 28       | 31       | 34       | 36       | 38       |
| 8 x 8             | Flow Rate, CFM     | 89    | 133     | 176      | 222      | 267      | 311      | 356      | 400      |
|                   | T                  | 4-Way | 2-3-4   | 3-4-5    | 3-5-6    | 4-5-7    | 4-6-8    | 5-7-9    | 5-7-10   |
|                   |                    | 3-Way | 2-3-4   | 3-4-5    | 4-5-7    | 4-6-8    | 5-7-10   | 6-9-12   | 7-10-13  |
|                   |                    | 2-Way | 3-4-5   | 3-5-6    | 4-6-8    | 5-7-10   | 7-10-13  | 7-11-14  | 8-12-16  |
|                   |                    | 1-Way | 3-5-6   | 4-6-8    | 5-7-10   | 6-9-12   | 8-12-15  | 9-13-17  | 10-15-19 |
|                   | NC                 | -     | 23      | 27       | 30       | 33       | 35       | 37       | 39       |
| 10 x 10           | Flow Rate, CFM     | 139   | 208     | 278      | 347      | 417      | 486      | 556      | 625      |
|                   | T                  | 4-Way | 2-3-4   | 3-5-6    | 4-6-8    | 6-8-11   | 6-9-12   | 7-11-14  | 8-12-16  |
|                   |                    | 3-Way | 3-5-6   | 4-6-8    | 5-7-10   | 7-10-13  | 8-12-15  | 9-14-18  | 10-15-20 |
|                   |                    | 2-Way | 4-6-8   | 6-8-11   | 7-10-13  | 8-12-16  | 10-15-20 | 12-17-23 | 13-19-26 |
|                   |                    | 1-Way | 5-7-9   | 6-9-12   | 8-12-16  | 10-15-20 | 12-18-24 | 14-21-28 | 16-24-32 |
|                   | NC                 | -     | 23      | 28       | 31       | 34       | 36       | 38       | 40       |
| 12 x 12           | Flow Rate, CFM     | 200   | 300     | 400      | 500      | 600      | 700      | 800      | 900      |
|                   | T                  | 4-Way | 3-5-6   | 4-6-8    | 5-7-10   | 6-9-12   | 8-12-15  | 9-13-17  | 10-15-20 |
|                   |                    | 3-Way | 3-5-6   | 5-7-9    | 6-9-12   | 8-12-15  | 9-14-18  | 11-16-22 | 13-19-25 |
|                   |                    | 2-Way | 5-7-9   | 6-9-12   | 8-12-16  | 11-16-21 | 12-18-24 | 15-22-29 | 17-25-33 |
|                   |                    | 1-Way | 6-9-12  | 8-12-16  | 10-15-20 | 12-18-24 | 15-22-29 | 17-25-33 | 18-27-36 |
|                   | NC                 | -     | 23      | 27       | 31       | 34       | 36       | 39       | 41       |
| 14 x 14           | Flow Rate, CFM     | 272   | 408     | 544      | 681      | 817      | 953      | 1089     | 1225     |
|                   | T                  | 4-Way | 4-5-7   | 4-6-9    | 6-9-12   | 7-11-14  | 9-14-18  | 10-15-20 | 12-18-24 |
|                   |                    | 3-Way | 4-5-9   | 5-8-11   | 6-10-13  | 8-13-16  | 10-15-20 | 11-17-23 | 13-19-27 |
|                   |                    | 2-Way | 5-7-10  | 6-9-13   | 8-12-18  | 11-17-22 | 12-19-26 | 16-23-31 | 18-26-36 |
|                   |                    | 1-Way | 6-9-12  | 8-12-18  | 10-15-22 | 13-19-26 | 15-23-30 | 17-25-35 | 19-28-39 |
|                   | NC                 | -     | 24      | 28       | 32       | 35       | 37       | 40       | 42       |
| 16 x 16           | Flow Rate, CFM     | 355   | 533     | 711      | 889      | 1067     | 1244     | 1422     | 1600     |
|                   | T                  | 4-Way | 5-7-9   | 6-8-11   | 8-10-14  | 9-13-18  | 10-15-21 | 13-18-27 | 14-20-28 |
|                   |                    | 3-Way | 5-7-11  | 6-9-13   | 8-13-17  | 10-15-22 | 13-19-26 | 15-22-30 | 18-25-36 |
|                   |                    | 2-Way | 6-10-12 | 9-14-16  | 11-17-24 | 14-21-28 | 17-25-32 | 19-26-34 | 21-34-40 |
|                   |                    | 1-Way | 7-10-16 | 9-15-18  | 12-18-26 | 15-22-32 | 18-27-36 | 19-28-37 | 24-35-42 |
|                   | NC                 | -     | 27      | 31       | 35       | 37       | 40       | 42       | 44       |
| 18 x 18           | Flow Rate, CFM     | 450   | 675     | 900      | 1125     | 1350     | 1575     | 1800     | 2025     |
|                   | T                  | 4-Way | 5-7-10  | 6-9-12   | 8-12-16  | 10-15-20 | 12-18-24 | 14-21-28 | 16-24-32 |
|                   |                    | 3-Way | 5-7-12  | 7-11-14  | 9-14-18  | 11-16-22 | 13-19-26 | 16-24-31 | 18-27-36 |
|                   |                    | 2-Way | 8-12-18 | 10-15-20 | 13-19-26 | 16-24-32 | 20-29-39 | 23-34-45 | 26-39-52 |
|                   |                    | 1-Way | 9-14-22 | 11-16-24 | 15-23-30 | 18-27-36 | 22-32-43 | 25-37-49 | 28-42-56 |
|                   | NC                 | -     | 28      | 32       | 36       | 38       | 41       | 43       | 45       |

**CFM** - cubic feet per minute

**FPM** - feet per minute velocity

**TP** - total pressure - inches w.g.

**VP** - velocity pressure - inches w.g.

**T** - throw in feet

**NC** - Noise Criteria (values) based on 10 dB room absorption, re 10<sup>-12</sup> watts.

#### Performance Notes:

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

2. Data derived from tests conducted in accordance with ANSI/ASHRAE Standard 70 – 1991.

#### Balancing:

It is recommended that a commercially available 'Flow Hood' is used for field balancing. The airflow meter directly reads average flow rate with great accuracy at all volumes. It is a much faster and more accurate alternative to time consuming multiple velocity readings, eliminating the use of Ak factors and the calculations required to convert the average velocity into airflow.

## PERFORATED CEILING DIFFUSERS

- SUPPLY
- 4-WAY DISCHARGE PATTERN
- FIELD ADJUSTABLE TO 1, 2 or 3 WAY PATTERN

### Steel Models:

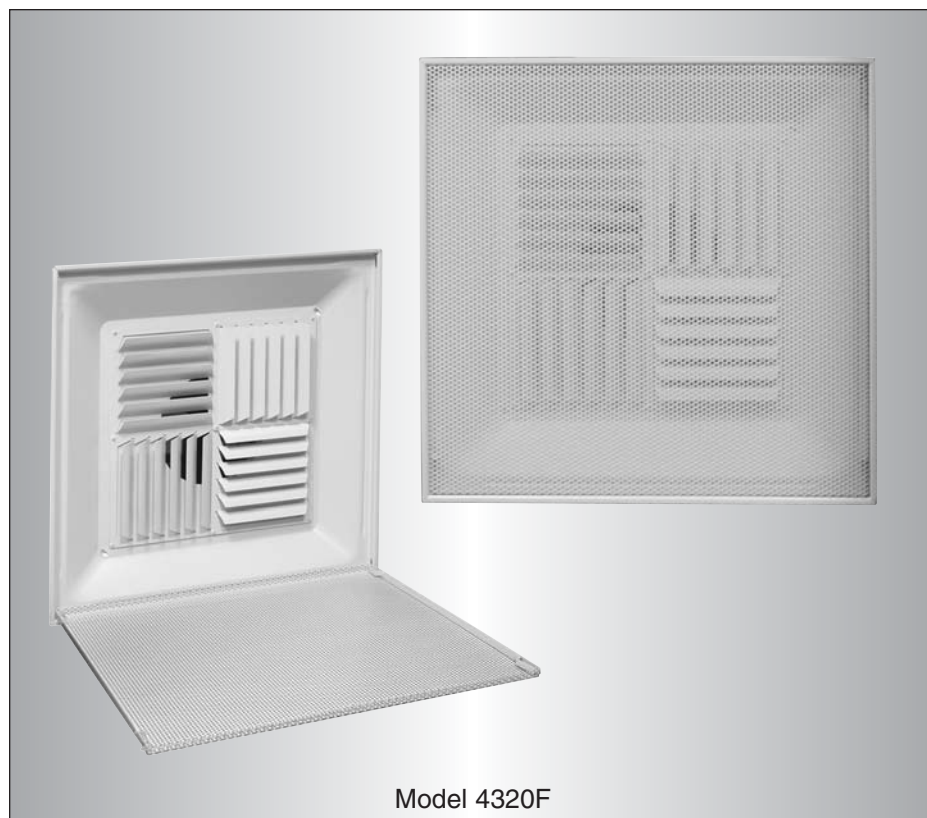
**4320F Flush Face**

**4325F Drop Face**

### Aluminum Face Models:

**4320FA Flush Face**

**4325FA Drop Face**



Model 4320F

D

CEILING DIFFUSERS

The **Nailor 4320F Series Perforated Diffusers** combine smooth, unobtrusive architectural appearance with the superior performance characteristics required by engineers. Designed to maximize throw, these models feature a single heavy gauge stamped pattern controller that is mounted directly under the neck. The formed louver air pattern controller has curved vanes that optimize airflow projection and provide a superior horizontal air pattern with a strong ceiling coanda effect. An excellent choice for variable air volume systems.

A main benefit of the **4320F Series** design is that the factory set 4-way discharge pattern controllers can be field adjusted to a 1, 2, or 3-way pattern. You can be assured that once installed, be it long or short term, the air pattern projection and performance will remain constant.

The **4325F** features a drop (extended) face panel that is available to compliment tegular tile ceiling systems. This ensures the panel remains flush with the ceiling line.

### FEATURES:

- Round or square necks available.
- Hinged, removable face plate with quick-release spring latches.
- Factory set 4-way discharge pattern can be field adjusted to a 1, 2, or 3 way deflection.
- Rugged curved vane air pattern controllers ensure performance is always optimized.
- Inlet collar has 1 1/4" (32) depth for easy duct connection.
- Dropping the perforated face gives access to the optional damper.
- Perforated face with 3/16" (5) diameter holes on staggered 1/4" (6) centers, providing 51% free area.
- Return models (**4360 Series**) have the same face and frame construction as the supply models to match their appearance.

**Material:** Corrosion-resistant steel backpan. Corrosion-resistant steel or aluminum perforated face depending on model selection.

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

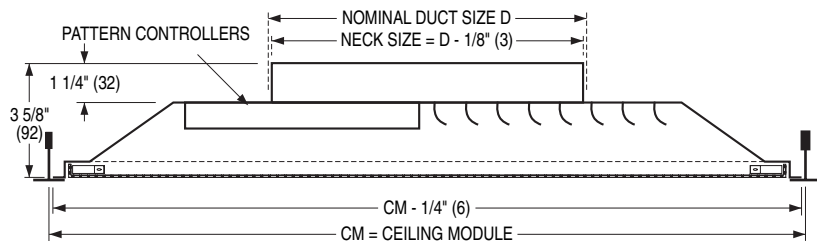
### Available Combinations of Ceiling Module vs. Neck Size

| Ceiling Module CM |                | Nominal Duct Size D                 |                                              |                                                               |                                                                                 |
|-------------------|----------------|-------------------------------------|----------------------------------------------|---------------------------------------------------------------|---------------------------------------------------------------------------------|
| Imperial Modules  | Metric Modules | Round Neck                          |                                              | Square Neck                                                   |                                                                                 |
|                   |                | Imperial Units (in.)                | Metric Units (mm)                            | Imperial Units (in.)                                          | Metric Units (mm)                                                               |
| 24 x 24           | 600 x 600      | 6, 8, 10,<br>12, 14, 15,<br>16 dia. | 152, 203, 254,<br>305, 356, 381,<br>406 dia. | 6 x 6, 8 x 8, 10 x 10<br>12 x 12, 14 x 14, 15 x 15<br>16 x 16 | 152 x 152, 203 x 203, 254 x 254<br>305 x 305, 356 x 356, 381 x 381<br>406 x 406 |

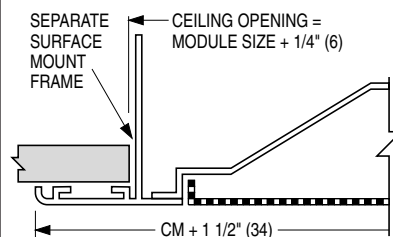
## Dimensional Data and Frame Types

Models 4320F, 4320FA • Supply • Flush Face

**Type L Lay-in T-Bar**

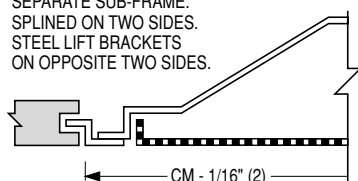


**Type S Surface Mount**

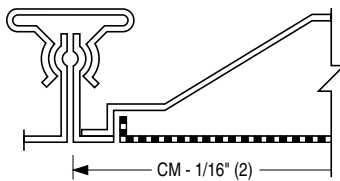


**Type SP Spline**

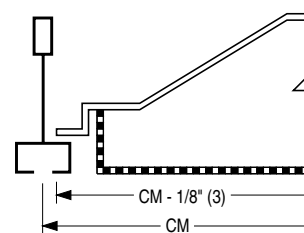
SEPARATE SUB-FRAME.  
SPLINED ON TWO SIDES.  
STEEL LIFT BRACKETS  
ON OPPOSITE TWO SIDES.



**Type M Metal Pan (Snap-in)**

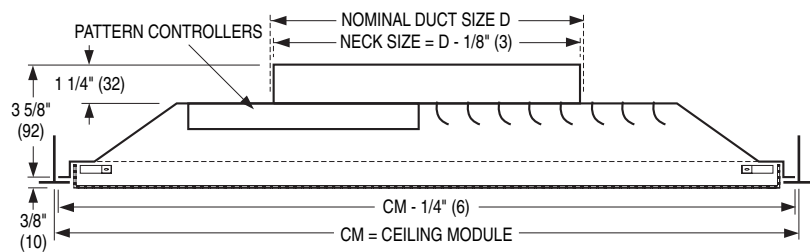


**Type F Fineline®**

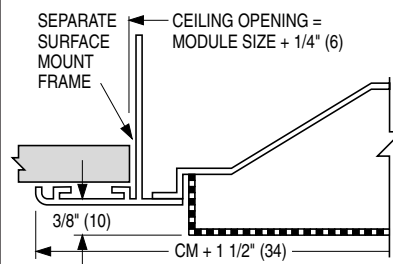


Models 4325F, 4325FA • Supply • Drop Face

**Type L Lay-in T-Bar or Tegular**

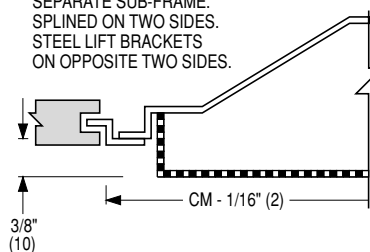


**Type S Surface Mount**

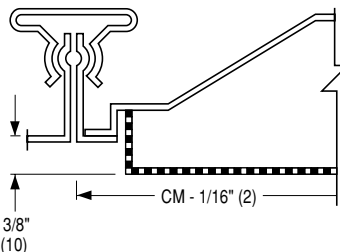


**Type SP Spline**

SEPARATE SUB-FRAME.  
SPLINED ON TWO SIDES.  
STEEL LIFT BRACKETS  
ON OPPOSITE TWO SIDES.



**Type M Metal Pan (Snap-in)**



## HOW TO SPECIFY OR TO ORDER

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

### Perforated Adjustable Pattern Ceiling Diffusers – Model Series 4320F

4320F - 08 - 24 x 24 - L - AW - -

#### MODEL

|                 |            |        |
|-----------------|------------|--------|
| - Steel         | Flush Face | 4320F  |
|                 | Drop Face  | 4325F  |
| - Aluminum Face | Flush Face | 4320FA |
|                 | Drop Face  | 4325FA |

#### NECK SIZE (inches)

##### Round

06, 08, 10, 12, 14, 15, 16

##### Square

6 x 6, 8 x 8, 10 x 10, 12 x 12,  
14 x 14, 15 x 15, 16 x 16

#### CEILING MODULE

Imperial (inches)    Metric (mm)

- 24 x 24                  600 x 600

#### ACCESSORIES

|                                 |     |
|---------------------------------|-----|
| - None (default)                | —   |
| - External Foil Back Insulation | EX  |
| - Earthquake Tabs               | EQT |

#### AIR BALANCING DEVICES

##### Round Neck

|                               |      |
|-------------------------------|------|
| - Radial Sliding Blade Damper | 4250 |
| - Radial Opposed Blade Damper | 4275 |
| - Butterfly Damper            | 4675 |
| - Equalizing Grid             | EGR  |
| - Damper/Equalizing Grid      | DEGR |

##### Square Neck

|                          |      |
|--------------------------|------|
| - Opposed Blade Damper   | OBD  |
| - Equalizing Grid        | EGL  |
| - Damper/Equalizing Grid | DEGL |

#### FINISH

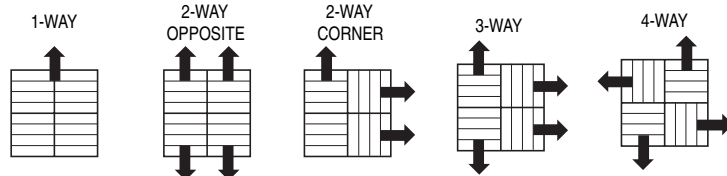
|                             |    |
|-----------------------------|----|
| - Appliance White (default) | AW |
| - Special Custom Color      | SP |
| - AW Face/Black Backpan     | BA |

#### FRAME TYPE

|                     |    |
|---------------------|----|
| - T-Bar Lay-in      | L  |
| - Surface Mount     | S  |
| - Spline            | SP |
| - Metal Pan Snap-in | M  |
| - Finline®          | F  |

#### PATTERN CONTROLLER ADJUSTMENTS

(THE DIFFUSER IS SHIPPED WITH A 4-WAY DISCHARGE).



#### Notes:

1. If more than one accessory is required, list in order.

#### SUGGESTED SPECIFICATION:

##### Models 4320F, 4325F - Steel

Furnish and install Nailor Model (select one) **4320F Flush Face or 4325F Drop Face, Adjustable Pattern Perforated Supply Ceiling Diffusers** of the sizes and capacities as shown on the plans and air distribution schedules. The diffuser shall have a heavy gauge, stamped corrosion-resistant steel backpan with a high neck collar that is round or square as specified. A corrosion-resistant steel perforated face shall have 3/16" (5) dia. holes on 1/4" (6) staggered centers, providing 51% free area. Mounted at the neck of the diffuser shall be factory set 4-way stamped curved vane deflectors that can be field adjusted to a 1, 2, or 3 way discharge pattern.(as specified). The face shall be removable, hinged and include quick-release spring latches allowing easy access for cleaning, adjusting the discharge pattern and adjusting the optional damper if required.

The manufacturer shall provide published performance data for the diffuser, which shall be tested in accordance with ANSI/ASHRAE Standard 70 – 1991.

##### Models 4320FA, 4325FA – Aluminum Face

Furnish and install Nailor Model (select one) **4320FA Flush Face or 4325FA Drop Face, Adjustable Pattern Perforated Supply Ceiling Diffusers** of the sizes and capacities as shown on the plans and air distribution schedules. The diffuser shall have a heavy gauge, stamped corrosion-resistant steel backpan with a high neck collar that is round or square as specified. An aluminum perforated face shall have 3/16" (5) dia. holes on 1/4" (6) staggered centers, providing 51% free area. Mounted at the neck of the diffuser shall be factory set 4-way stamped curved vane deflectors that can be field adjusted to a 1, 2, or 3 way discharge pattern.(as specified). The face shall be removable, hinged and include quick-release spring latches allowing easy access for cleaning, adjusting the discharge pattern and adjusting the optional damper if required.

The manufacturer shall provide published performance data for the diffuser, which shall be tested in accordance with ANSI/ASHRAE Standard 70 – 1991.

## Performance Data

Models 4320F, 4320FA • 24 x 24 (600 x 600) Module Size • Round Neck

| Nominal Neck Size | Neck Velocity, FPM | 300   | 400     | 500      | 600      | 700      | 800      | 900      |
|-------------------|--------------------|-------|---------|----------|----------|----------|----------|----------|
|                   | VP                 | .006  | .010    | .016     | .023     | .031     | .040     | .051     |
|                   | TP                 | .026  | .047    | .073     | .105     | .143     | .186     | .236     |
| 6" Dia.           | Flow Rate, CFM     | 60    | 80      | 95       | 115      | 135      | 155      | 175      |
|                   | T                  | 4-Way | 1-2-4   | 2-3-6    | 2-3-7    | 3-4-7    | 3-5-8    | 4-6-9    |
|                   |                    | 3-Way | 1-2-5   | 2-3-7    | 2-4-8    | 3-5-9    | 4-6-9    | 4-7-10   |
|                   |                    | 2-Way | 2-3-7   | 3-4-9    | 4-6-11   | 4-7-12   | 5-8-13   | 6-9-14   |
|                   |                    | 1-Way | 2-4-8   | 3-5-11   | 4-7-13   | 5-8-15   | 6-9-16   | 7-11-17  |
|                   | NC                 | —     | —       | 17       | 23       | 28       | 33       | 36       |
| 8" Dia.           | Flow Rate, CFM     | 105   | 140     | 175      | 210      | 245      | 280      | 315      |
|                   | T                  | 4-Way | 2-3-6   | 2-4-8    | 3-5-9    | 4-6-10   | 4-7-11   | 4-8-12   |
|                   |                    | 3-Way | 2-3-7   | 3-4-9    | 3-5-11   | 4-7-12   | 5-8-13   | 6-9-14   |
|                   |                    | 2-Way | 3-4-9   | 4-6-13   | 5-8-15   | 6-9-17   | 7-11-18  | 8-13-20  |
|                   |                    | 1-Way | 3-5-11  | 5-7-15   | 6-9-18   | 7-11-21  | 8-13-22  | 10-15-24 |
|                   | NC                 | —     | —       | 20       | 26       | 31       | 36       | 39       |
| 10" Dia.          | Flow Rate, CFM     | 165   | 215     | 270      | 325      | 380      | 435      | 490      |
|                   | T                  | 4-Way | 2-3-7   | 3-5-10   | 4-6-12   | 5-7-13   | 5-8-14   | 6-10-15  |
|                   |                    | 3-Way | 2-4-8   | 3-5-11   | 4-7-13   | 5-8-15   | 6-10-16  | 7-11-17  |
|                   |                    | 2-Way | 4-6-12  | 5-8-16   | 6-10-20  | 8-12-22  | 9-14-23  | 10-16-25 |
|                   |                    | 1-Way | 4-7-14  | 6-9-18   | 7-11-23  | 9-14-26  | 11-16-28 | 12-18-29 |
|                   | NC                 | —     | 15      | 23       | 29       | 34       | 38       | 40       |
| 12" Dia.          | Flow Rate, CFM     | 235   | 315     | 390      | 470      | 550      | 625      | 705      |
|                   | T                  | 4-Way | 3-4-9   | 4-6-12   | 5-7-14   | 6-9-15   | 7-10-17  | 8-12-18  |
|                   |                    | 3-Way | 3-5-10  | 4-7-14   | 5-8-16   | 7-10-18  | 8-12-20  | 9-14-22  |
|                   |                    | 2-Way | 4-7-14  | 6-9-20   | 8-12-24  | 9-14-26  | 11-17-28 | 13-20-30 |
|                   |                    | 1-Way | 5-8-17  | 7-11-23  | 9-14-28  | 11-17-31 | 13-20-33 | 15-23-35 |
|                   | NC                 | —     | 16      | 24       | 30       | 35       | 39       | 41       |
| 14" Dia.          | Flow Rate, CFM     | 320   | 425     | 535      | 640      | 750      | 855      | 960      |
|                   | T                  | 4-Way | 3-5-10  | 4-7-14   | 5-8-16   | 7-10-18  | 8-12-21  | 9-14-22  |
|                   |                    | 3-Way | 4-6-12  | 5-8-16   | 6-10-20  | 8-12-22  | 9-14-24  | 10-16-25 |
|                   |                    | 2-Way | 5-8-17  | 7-11-24  | 9-14-28  | 11-17-30 | 13-21-33 | 15-24-35 |
|                   |                    | 1-Way | 6-9-20  | 8-13-27  | 11-16-33 | 13-20-36 | 15-24-38 | 17-27-41 |
|                   | NC                 | —     | 18      | 26       | 32       | 37       | 41       | 43       |
| 15" Dia.          | Flow Rate, CFM     | 370   | 490     | 615      | 740      | 860      | 985      | 1100     |
|                   | T                  | 4-Way | 3-6-10  | 4-2-14   | 5-8-17   | 8-10-19  | 8-13-21  | 10-14-23 |
|                   |                    | 3-Way | 4-6-12  | 6-8-17   | 6-11-21  | 8-13-22  | 10-14-25 | 11-16-26 |
|                   |                    | 2-Way | 4-8-17  | 7-12-25  | 9-15-30  | 11-18-31 | 13-22-34 | 16-25-35 |
|                   |                    | 1-Way | 6-9-20  | 8-14-28  | 12-17-34 | 14-21-37 | 16-24-39 | 18-27-42 |
|                   | NC                 | —     | 19      | 27       | 33       | 38       | 42       | 44       |
| 16" Dia.          | Flow Rate, CFM     | 420   | 560     | 700      | 835      | 975      | 1115     | 1255     |
|                   | T                  | 4-Way | 4-6-12  | 5-8-16   | 6-10-20  | 8-12-22  | 9-14-23  | 10-16-25 |
|                   |                    | 3-Way | 4-7-14  | 6-9-18   | 7-11-23  | 9-14-25  | 10-16-27 | 12-18-29 |
|                   |                    | 2-Way | 6-9-20  | 8-13-27  | 10-16-32 | 13-20-35 | 15-24-37 | 17-27-40 |
|                   |                    | 1-Way | 7-11-23 | 10-15-31 | 12-18-37 | 15-23-41 | 17-27-44 | 21-31-47 |
|                   | NC                 | —     | 21      | 28       | 34       | 39       | 43       | 45       |

For performance notes, see page D163.

## Performance Data

Models 4320F, 4320FA • 24 x 24 (600 x 600) Module Size • Square Neck

| Nominal Neck Size | Neck Velocity, FPM |       | 300     | 400      | 500      | 600      | 700      | 800      | 900       |
|-------------------|--------------------|-------|---------|----------|----------|----------|----------|----------|-----------|
|                   | VP                 |       | .006    | .010     | .016     | .023     | .031     | .040     | .051      |
|                   | TP                 |       | .025    | .045     | .070     | .100     | .137     | .179     | .226      |
| 6 x 6             | Flow Rate, CFM     |       | 75      | 100      | 125      | 150      | 175      | 200      | 225       |
|                   | T                  | 4-Way | 1-2-5   | 2-3-7    | 3-4-8    | 3-5-8    | 4-6-9    | 5-7-10   | 5-7-11    |
|                   |                    | 3-Way | 2-3-6   | 2-4-8    | 3-5-11   | 4-6-12   | 5-7-13   | 5-8-14   | 6-10-15   |
|                   |                    | 2-Way | 3-4-9   | 4-6-12   | 5-7-15   | 6-9-17   | 7-10-20  | 8-12-21  | 9-14-22   |
|                   |                    | 1-Way | 3-5-10  | 4-7-14   | 6-9-18   | 7-10-21  | 8-12-23  | 9-14-24  | 10-16-26  |
| NC                |                    | —     | —       | 18       | 24       | 29       | 34       | 37       |           |
| 8 x 8             | Flow Rate, CFM     |       | 135     | 175      | 220      | 265      | 310      | 355      | 400       |
|                   | T                  | 4-Way | 2-3-6   | 3-4-9    | 3-5-10   | 4-6-11   | 5-8-12   | 6-9-13   | 6-10-14   |
|                   |                    | 3-Way | 2-3-7   | 3-5-10   | 4-6-12   | 5-7-13   | 6-9-14   | 7-10-15  | 7-11-16   |
|                   |                    | 2-Way | 3-5-11  | 4-7-14   | 6-9-17   | 7-11-20  | 8-13-21  | 9-14-23  | 11-16-24  |
|                   |                    | 1-Way | 4-6-12  | 5-8-17   | 7-10-21  | 8-12-23  | 9-14-25  | 11-17-27 | 12-20-28  |
| NC                |                    | —     | —       | 21       | 27       | 32       | 37       | 40       |           |
| 10 x 10           | Flow Rate, CFM     |       | 210     | 275      | 345      | 415      | 485      | 555      | 625       |
|                   | T                  | 4-Way | 2-4-8   | 3-5-11   | 4-7-13   | 5-8-14   | 6-10-16  | 7-11-17  | 8-12-18   |
|                   |                    | 3-Way | 3-4-9   | 4-6-13   | 5-8-15   | 6-9-17   | 7-11-18  | 8-13-20  | 9-14-22   |
|                   |                    | 2-Way | 4-6-13  | 6-9-18   | 7-11-22  | 9-13-25  | 10-16-26 | 12-18-28 | 13-21-30  |
|                   |                    | 1-Way | 5-8-16  | 7-10-22  | 8-13-26  | 10-16-29 | 12-18-31 | 14-22-33 | 16-25-35  |
| NC                |                    | —     | 16      | 24       | 30       | 35       | 39       | 41       |           |
| 12 x 12           | Flow Rate, CFM     |       | 300     | 400      | 500      | 600      | 700      | 800      | 900       |
|                   | T                  | 4-Way | 3-5-10  | 4-6-13   | 5-8-16   | 6-10-17  | 8-12-20  | 9-13-21  | 10-15-22  |
|                   |                    | 3-Way | 3-5-11  | 5-7-15   | 6-9-18   | 7-11-21  | 9-13-23  | 10-15-24 | 11-17-26  |
|                   |                    | 2-Way | 5-8-16  | 7-11-23  | 9-13-27  | 11-16-29 | 13-20-32 | 14-23-34 | 16-25-36  |
|                   |                    | 1-Way | 6-9-20  | 8-12-26  | 10-16-31 | 12-20-34 | 14-23-37 | 17-26-40 | 22-31-44  |
| NC                |                    | —     | 17      | 25       | 31       | 36       | 40       | 42       |           |
| 14 x 14           | Flow Rate, CFM     |       | 410     | 545      | 680      | 815      | 955      | 1090     | 1360      |
|                   | T                  | 4-Way | 1-1-6   | 1-3-8    | 2-4-11   | 3-6-13   | 4-7-15   | 5-8-17   | 7-11-22   |
|                   |                    | 3-Way | 1-3-10  | 2-6-14   | 4-9-18   | 6-10-21  | 8-12-26  | 9-14-29  | 11-18-372 |
|                   |                    | 2-Way | 2-5-14  | 4-9-19   | 7-12-24  | 9-14-30  | 11-17-35 | 13-19-40 | 16-24-47  |
|                   |                    | 1-Way | 3-8-17  | 6-11-23  | 9-14-30  | 11-17-36 | 13-20-42 | 15-23-48 | 19-30-54  |
| NC                |                    | —     | 19      | 27       | 33       | 38       | 42       | 44       |           |
| 15 x 15           | Flow Rate, CFM     |       | 470     | 625      | 780      | 935      | 1095     | 1250     | 1405      |
|                   | T                  | 4-Way | 4-6-12  | 5-8-17   | 7-10-21  | 8-12-23  | 10-15-25 | 11-17-26 | 12-20-28  |
|                   |                    | 3-Way | 4-7-14  | 6-9-20   | 8-12-24  | 9-14-26  | 11-17-28 | 13-20-30 | 14-23-32  |
|                   |                    | 2-Way | 6-10-21 | 9-13-28  | 11-17-33 | 13-21-37 | 16-25-40 | 18-28-42 | 21-32-45  |
|                   |                    | 1-Way | 8-12-25 | 10-16-33 | 13-21-39 | 16-25-43 | 18-29-46 | 22-33-49 | 25-37-53  |
| NC                |                    | —     | 20      | 28       | 33       | 39       | 43       | 45       |           |
| 16 x 16           | Flow Rate, CFM     |       | 530     | 710      | 890      | 1065     | 1245     | 1420     | 1600      |
|                   | T                  | 4-Way | 4-7-14  | 5-9-18   | 7-10-20  | 9-13-24  | 10-16-26 | 10-19-28 | 13-21-29  |
|                   |                    | 3-Way | 4-7-17  | 6-10-21  | 8-12-24  | 10-15-28 | 11-20-30 | 13-22-32 | 17-24-34  |
|                   |                    | 2-Way | 7-10-23 | 10-14-29 | 11-17-34 | 15-22-36 | 18-28-43 | 20-30-44 | 24-34-50  |
|                   |                    | 1-Way | 8-12-26 | 11-17-33 | 14-21-40 | 18-25-45 | 21-32-50 | 23-38-53 | 29-40-56  |
| NC                |                    | —     | 22      | 29       | 35       | 40       | 44       | 45       |           |

**CFM** - cubic feet per minute

**FPM** - feet per minute velocity

**TP** - total pressure - inches w.g.

**VP** - velocity pressure - inches w.g.

**T** - throw in feet

**NC** - Noise Criteria (values) based on 10 dB room absorption, re 10<sup>-12</sup> watts.

### Performance Notes:

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

2. Data derived from tests conducted in accordance with ANSI/ASHRAE Standard 70 – 1991.

### Balancing:

It is recommended that a commercially available 'Flow Hood' is used for field balancing. The airflow meter directly reads average flow rate with great accuracy at all volumes. It is a much faster and more accurate alternative to time consuming multiple velocity readings, eliminating the use of Ak factors and the calculations required to convert the average velocity into airflow.



## PERFORATED MODULAR CORE DIFFUSERS

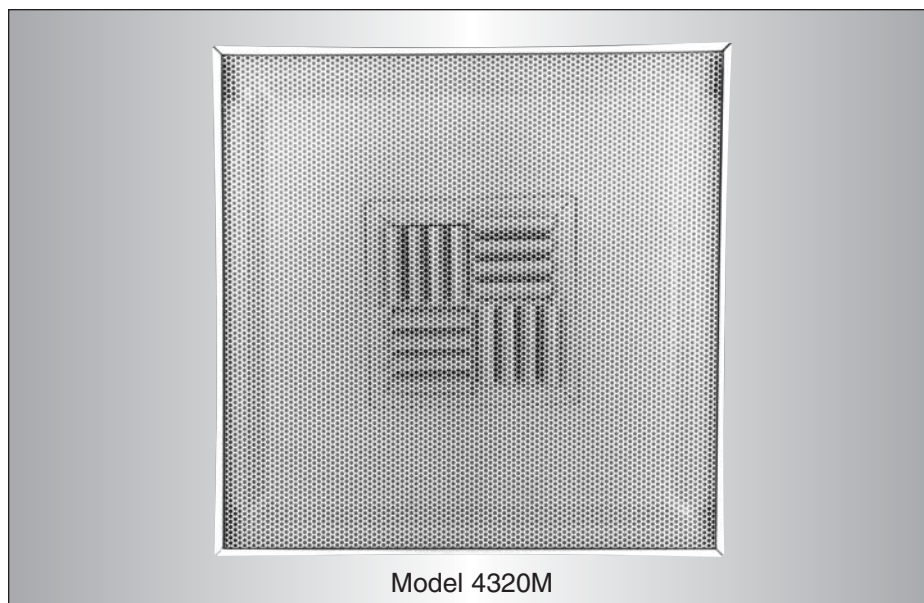
- SUPPLY
- SQUARE NECK
- 1, 2, 3 OR 4-WAY ADJUSTABLE DISCHARGE PATTERN

### Steel Models:

4320M Flush Face  
4325M Drop Face

### Aluminum Face Models:

4320MA Flush Face  
4325MA Drop Face



The **Nailor 4320M Perforated Modular Core Diffusers** provide the unobtrusive, smooth appearance preferred by many architects and combines this with the flexible features of a high performance modular core design. This model features four individual, spring-loaded modular pattern controllers mounted in the neck. They can be adjusted before or after installation, to provide a 1, 2, 3 or 4-way discharge pattern by simply dropping the perforated face and rotating one or more of the pattern controllers.

The engineered modular core design maintains a tight, uniform horizontal throw pattern from maximum to minimum cataloged air volumes. It therefore provides excellent performance in variable air volume systems. The diffuser is shipped from the factory with the modular core set for a 4-way discharge pattern.

The **4325M** features a dropped (extended) face panel that is designed to compliment regular tile ceiling systems. The face panel is suspended flush with the ceiling line, providing both an aesthetically pleasing appearance and ensuring optimal performance is maintained.

### FEATURES:

- Square neck is standard.
- Hinged, removable face plate with quick-release spring latches.
- Discharge pattern can be adjusted to a 1, 2, 3 or 4-way horizontal pattern before or after installation.
- Discharge pattern is adjusted by dropping the perforated face and rotating the modular sections.
- Inlet collar has approximately 1 1/2" (38) depth for easy duct connection.
- Dropping the perforated face and removing a core module gives access to the optional opposed blade damper.
- Perforated face with 3/16" (5) diameter holes on staggered 1/4" (6) centers, providing 51% free area.
- Return models (**4360 Series**) have the same face and frame construction as the supply models to match the appearance.

**Material:** Corrosion-resistant steel backpan and modular core. Corrosion-resistant steel or aluminum perforated face depending on model selection.

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

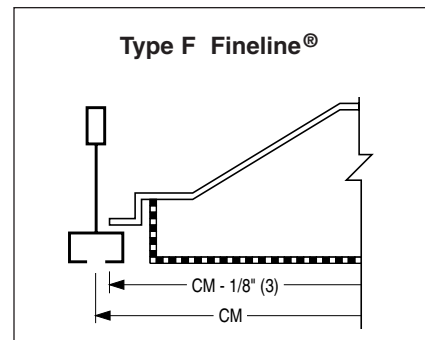
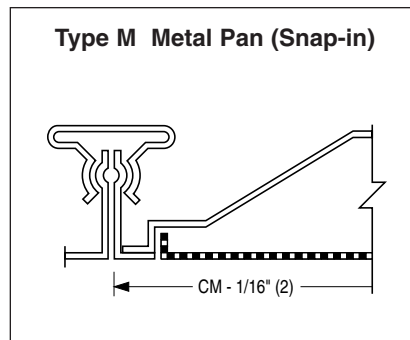
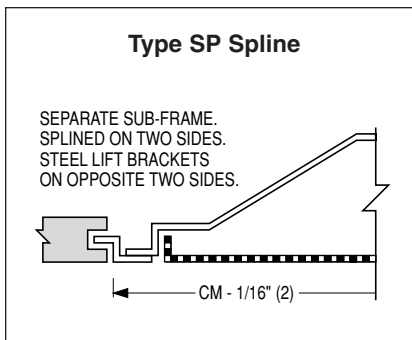
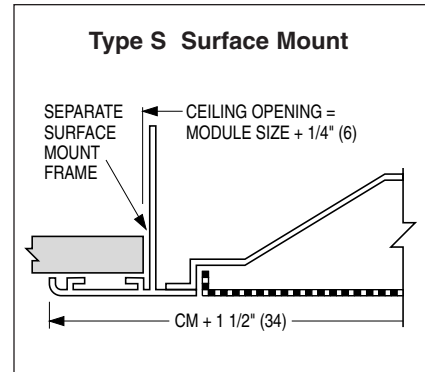
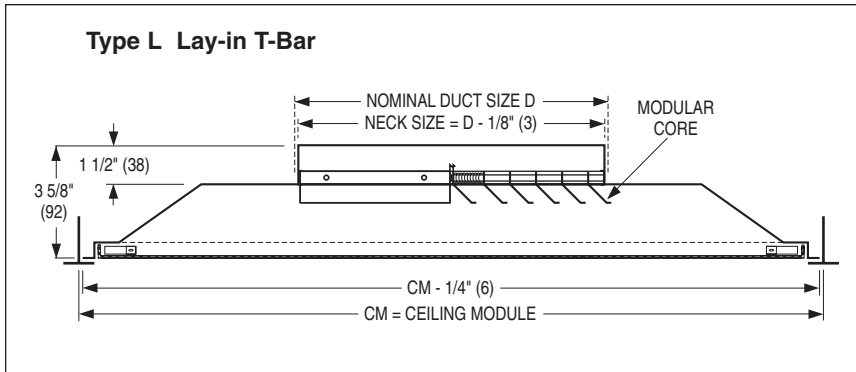
### Available Combinations of Ceiling Module vs. Neck Size

| Ceiling Module CM |                | Nominal Duct Size D                                                         |                                                                                                   |
|-------------------|----------------|-----------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|
| Imperial Modules  | Metric Modules | Square Neck                                                                 |                                                                                                   |
|                   |                | Imperial Units (in.)                                                        | Metric Units (mm)                                                                                 |
| 12 x 12           | 300 x 300      | 6 x 6, 8 x 8                                                                | 152 x 152, 203 x 203                                                                              |
| 24 x 24           | 600 x 600      | 6 x 6, 8 x 8, 10 x 10, 12 x 12, 14 x 14, 15 x 15, 16 x 16, 18 x 18, 20 x 20 | 152 x 152, 203 x 203, 254 x 254, 305 x 305, 356 x 356, 381 x 381, 406 x 406, 457 x 457, 508 x 508 |

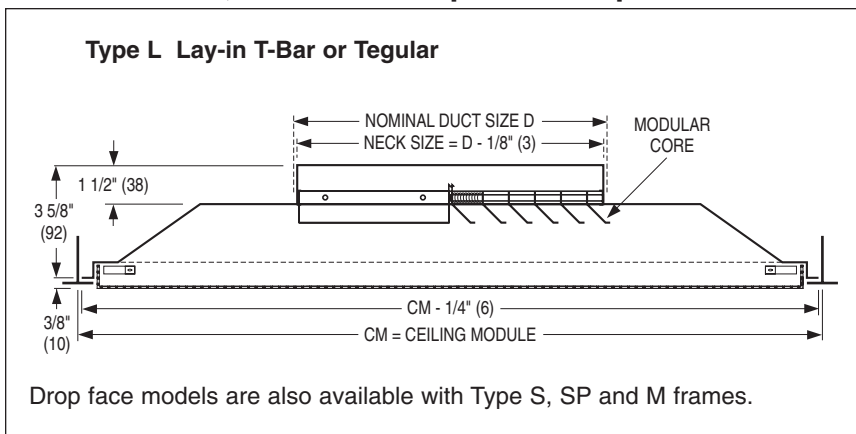


## Dimensional Data and Frame Types

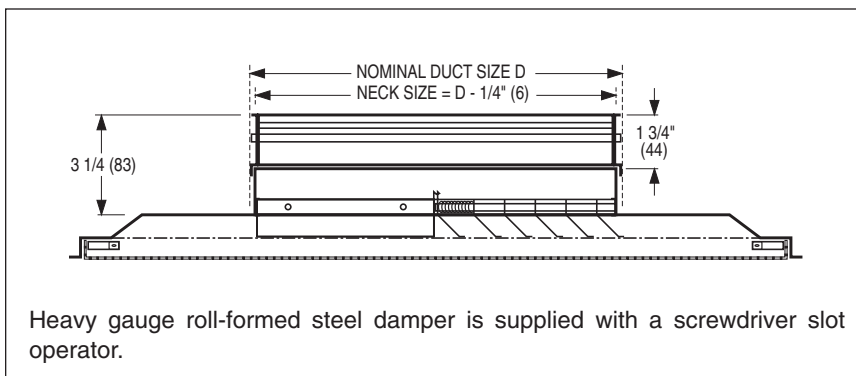
### Models 4320M, 4320MA • Flush Face • Square Neck



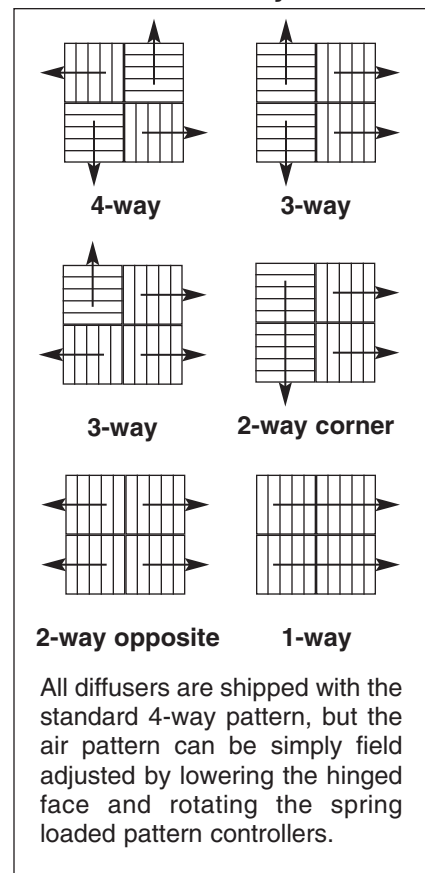
### Models 4325M, 4325MA • Drop Face • Square Neck



### Optional Opposed Blade Damper • Model OBD



### Modular Core Adjustments



## HOW TO SPECIFY OR TO ORDER

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

### Perforated Modular Core Square Neck Supply Ceiling Diffusers – Model Series 4320M

**4320M - 8 x 8 - 24 x 24 - L - AW - -**

#### MODEL

|                 |            |        |
|-----------------|------------|--------|
| - Steel         | Flush Face | 4320M  |
|                 | Drop Face  | 4325M  |
| - Aluminum Face | Flush Face | 4320MA |
|                 | Drop Face  | 4325MA |

#### NECK SIZE (inches)

6 x 6, 8 x 8, 10 x 10, 12 x 12,  
14 x 14, 15 x 15, 16 x 16,  
18 x 18, 20 x 20

#### CEILING MODULE

**Imperial (inches)    Metric (mm)**

|           |           |
|-----------|-----------|
| - 12 x 12 | 300 x 300 |
| - 24 x 24 | 600 x 600 |

#### ACCESSORIES

|                                 |     |
|---------------------------------|-----|
| - None (default)                | —   |
| - External Foil Back Insulation | EX  |
| - Earthquake Tabs               | EQT |

#### AIR BALANCING DEVICES

|                          |      |
|--------------------------|------|
| - Opposed Blade Damper   | OBD  |
| - Equalizing Grid        | EGL  |
| - Damper/Equalizing Grid | DEGL |

#### FINISH

|                             |    |
|-----------------------------|----|
| - Appliance White (default) | AW |
| - Special Custom Color      | SP |
| - AW Face/Black Backpan     | BA |

#### FRAME TYPE

|                     |    |
|---------------------|----|
| - Lay-in T-Bar      | L  |
| - Surface Mount     | S  |
| - Spline            | SP |
| - Metal Pan Snap-in | M  |
| - Finline®          | F  |

#### Notes:

1. Consult individual models as to limitations and availability of ceiling module and neck size combinations.
2. If more than one accessory is required, list in order.

#### SUGGESTED SPECIFICATION:

##### Models 4320M, 4325M – Steel

Furnish and install **Nailor Model** (select one) **4320M Flush Face** or **4325M Drop Face, Perforated Modular Core Supply Ceiling Diffusers** of the sizes and capacities as shown on the plans and air distribution schedules. The diffuser shall have a heavy gauge, stamped corrosion-resistant steel backpan with an integral square neck collar. A corrosion-resistant steel perforated face shall have 3/16" (5) dia. holes on 1/4" (6) staggered centers, providing 51% free area. Mounted in the neck of the diffuser shall be four square modular pattern deflectors factory installed in a 4-way pattern, that are easily field rotated to provide throws in 1, 2, or 3-way patterns. The face shall be removable, hinged and include quick-release spring latches allowing easy access for cleaning and adjusting the deflectors (or optional damper). The finish shall be AW Appliance White baked enamel (optional finishes are available).

The manufacturer shall provide published performance data for the diffuser, which shall be tested in accordance with ANSI/ASHRAE Standard 70 – 1991.

##### Models 4320MA, 4325MA – Aluminum Face

Furnish and install **Nailor Model** (select one) **4320MA Flush Face** or **4325MA Drop Face, Perforated Modular Core Supply Ceiling Diffusers** of the sizes and capacities as shown on the plans and air distribution schedules. The diffuser shall have a heavy gauge, stamped corrosion-resistant steel backpan with an integral square neck collar. An aluminum perforated face shall have 3/16" (5) dia. holes on 1/4" (6) staggered centers, providing 51% free area. Mounted in the neck of the diffuser shall be four square modular pattern deflectors factory installed in a 4-way pattern, that are easily field rotated to provide throws in 1, 2, or 3-way patterns. The face shall be removable, hinged and include quick-release spring latches allowing easy access for cleaning and adjusting the deflectors (or optional damper). The finish shall be AW Appliance White baked enamel (optional finishes are available).

The manufacturer shall provide published performance data for the diffuser, which shall be tested in accordance with ANSI/ASHRAE Standard 70 – 1991.

## Performance Data

### Models 4320M, 4320MA • 12 x 12 (300 x 300) Module Size • Square Neck

| Nominal Neck Size | Neck Velocity, FPM | 300   | 400    | 500    | 600     | 700     | 800      | 900      |
|-------------------|--------------------|-------|--------|--------|---------|---------|----------|----------|
| 6 x 6             | VP                 | .006  | .010   | .016   | .023    | .031    | .040     | .051     |
|                   | TP                 | .030  | .048   | .071   | .119    | .155    | .196     | .244     |
|                   | Flow Rate, CFM     | 75    | 100    | 125    | 150     | 175     | 200      | 225      |
|                   | T                  | 4-Way | 1-1-2  | 1-1-3  | 1-2-4   | 1-2-5   | 2-3-6    | 2-4-7    |
|                   |                    | 3-Way | 1-2-4  | 2-3-6  | 2-4-8   | 3-4-9   | 3-5-10   | 4-7-11   |
|                   |                    | 2-Way | 2-3-6  | 2-4-8  | 3-5-10  | 4-6-12  | 4-7-13   | 5-8-14   |
|                   |                    | 1-Way | 3-4-9  | 4-6-12 | 5-8-16  | 6-9-19  | 7-11-20  | 8-12-22  |
| 8 x 8             | NC                 | —     | —      | 19     | 24      | 30      | 34       | 39       |
|                   | TP                 | .028  | .042   | .064   | .110    | .141    | .186     | .240     |
|                   | Flow Rate, CFM     | 135   | 175    | 220    | 265     | 310     | 355      | 400      |
|                   | T                  | 4-Way | 1-1-3  | 1-2-5  | 2-3-6   | 2-3-7   | 2-4-8    | 3-5-8    |
|                   |                    | 3-Way | 2-3-6  | 2-4-8  | 3-5-10  | 4-6-13  | 5-7-14   | 5-8-15   |
|                   |                    | 2-Way | 2-4-8  | 3-5-11 | 4-6-13  | 5-8-16  | 6-9-18   | 7-11-19  |
|                   |                    | 1-Way | 4-6-12 | 5-8-17 | 7-10-21 | 8-12-25 | 10-15-27 | 11-17-29 |
|                   | NC                 | —     | 16     | 23     | 28      | 34      | 38       | 43       |

**CFM** - cubic feet per minute

**FPM** - feet per minute velocity

**TP** - total pressure - inches w.g.

**VP** - velocity pressure - inches w.g.

**T** - throw in feet

**NC** - Noise Criteria (values) based on 10 dB room absorption, re 10<sup>-12</sup> watts.

#### Performance Notes:

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

2. Data derived from tests conducted in accordance with ANSI/ASHRAE Standard 70 – 1991.

#### Balancing:

It is recommended that a commercially available 'Flow Hood' is used for field balancing. The airflow meter directly reads average flow rate with great accuracy at all volumes. It is a much faster and more accurate alternative to time consuming multiple velocity readings, eliminating the use of Ak factors and the calculations required to convert the average velocity into airflow.

## Performance Data

Models 4320M, 4320MA • 24 x 24 (600 x 600) Module Size • Square Neck

| Nominal Neck Size | Neck Velocity, FPM | 300   | 400     | 500      | 600      | 700      | 800      | 900      |
|-------------------|--------------------|-------|---------|----------|----------|----------|----------|----------|
|                   | VP                 | .006  | .010    | .016     | .023     | .031     | .040     | .051     |
| 6 x 6             | TP                 | .024  | .042    | .065     | .098     | .130     | .169     | .202     |
|                   | Flow Rate, CFM     | 75    | 100     | 125      | 150      | 175      | 200      | 225      |
|                   | T                  | 4-Way | 1-1-2   | 1-1-3    | 1-2-4    | 1-2-5    | 2-3-6    | 2-4-7    |
|                   |                    | 3-Way | 1-2-4   | 2-3-6    | 2-4-8    | 3-4-9    | 3-5-10   | 4-6-11   |
|                   |                    | 2-Way | 2-3-6   | 2-4-8    | 3-5-10   | 4-6-12   | 4-7-13   | 5-8-14   |
|                   |                    | 1-Way | 3-4-9   | 4-6-12   | 5-8-16   | 6-9-19   | 7-11-20  | 8-12-22  |
|                   | NC                 | —     | —       | 15       | 19       | 23       | 29       | 31       |
| 8 x 8             | TP                 | .024  | .042    | .065     | .098     | .130     | .169     | .202     |
|                   | Flow Rate, CFM     | 135   | 175     | 220      | 265      | 310      | 355      | 400      |
|                   | T                  | 4-Way | 1-1-3   | 1-2-5    | 2-3-6    | 2-3-7    | 2-4-8    | 3-5-8    |
|                   |                    | 3-Way | 2-3-6   | 2-4-8    | 3-5-10   | 4-6-13   | 5-7-14   | 5-8-15   |
|                   |                    | 2-Way | 2-4-8   | 3-5-11   | 4-6-13   | 5-8-16   | 6-9-18   | 7-11-19  |
|                   |                    | 1-Way | 4-6-12  | 5-8-17   | 7-10-21  | 8-12-25  | 10-15-27 | 11-17-29 |
|                   | NC                 | —     | —       | 18       | 23       | 27       | 33       | 35       |
| 10 x 10           | TP                 | .034  | .050    | .073     | .124     | .160     | .226     | .263     |
|                   | Flow Rate, CFM     | 210   | 275     | 345      | 415      | 485      | 555      | 625      |
|                   | T                  | 4-Way | 1-2-4   | 2-3-6    | 2-3-7    | 3-4-9    | 3-5-10   | 4-6-11   |
|                   |                    | 3-Way | 2-4-8   | 3-5-10   | 4-6-13   | 5-8-16   | 6-9-17   | 7-10-18  |
|                   |                    | 2-Way | 3-5-10  | 4-6-13   | 5-8-17   | 6-10-20  | 8-12-22  | 9-13-24  |
|                   |                    | 1-Way | 5-8-16  | 7-10-21  | 8-13-26  | 10-16-32 | 12-18-34 | 14-21-37 |
|                   | NC                 | —     | —       | 21       | 26       | 30       | 36       | 38       |
| 12 x 12           | TP                 | .036  | .052    | .085     | .127     | .169     | .230     | .276     |
|                   | Flow Rate, CFM     | 300   | 400     | 500      | 600      | 700      | 800      | 900      |
|                   | T                  | 4-Way | 1-2-5   | 2-3-7    | 3-4-9    | 3-5-11   | 4-6-12   | 5-7-13   |
|                   |                    | 3-Way | 3-4-9   | 4-6-13   | 5-8-16   | 6-9-19   | 7-11-21  | 8-13-22  |
|                   |                    | 2-Way | 4-6-12  | 5-8-16   | 6-10-20  | 8-12-25  | 9-14-27  | 11-16-28 |
|                   |                    | 1-Way | 6-9-19  | 8-12-25  | 10-16-32 | 12-19-38 | 15-22-41 | 17-25-44 |
|                   | NC                 | —     | —       | 25       | 30       | 34       | 39       | 42       |
| 15 x 15           | TP                 | .039  | .058    | .096     | .129     | .177     | .236     | .291     |
|                   | Flow Rate, CFM     | 470   | 625     | 780      | 935      | 1095     | 1250     | 1405     |
|                   | T                  | 4-Way | 2-3-7   | 3-4-9    | 4-6-12   | 4-7-14   | 5-8-15   | 6-9-16   |
|                   |                    | 3-Way | 4-6-12  | 5-8-16   | 6-10-20  | 8-12-24  | 9-14-26  | 10-16-28 |
|                   |                    | 2-Way | 5-7-15  | 6-10-20  | 8-13-26  | 10-15-31 | 12-18-33 | 13-20-36 |
|                   |                    | 1-Way | 8-12-24 | 10-16-32 | 13-20-40 | 16-24-48 | 18-28-52 | 21-32-56 |
|                   | NC                 | —     | 19      | 28       | 33       | 37       | 42       | 45       |
| 18 x 18           | TP                 | .041  | .062    | .110     | .135     | .186     | .240     | .301     |
|                   | Flow Rate, CFM     | 675   | 900     | 1125     | 1350     | 1575     | 1800     | 2025     |
|                   | T                  | 4-Way | 2-4-8   | 3-5-11   | 4-7-14   | 5-8-17   | 6-10-18  | 7-11-19  |
|                   |                    | 3-Way | 4-7-14  | 6-9-19   | 8-12-24  | 9-14-29  | 11-17-31 | 13-19-33 |
|                   |                    | 2-Way | 6-9-18  | 8-12-25  | 10-15-31 | 12-18-37 | 14-21-40 | 16-25-43 |
|                   |                    | 1-Way | 9-14-29 | 12-19-38 | 16-24-48 | 19-29-58 | 24-34-62 | 25-38-67 |
|                   | NC                 | —     | 22      | 31       | 36       | 41       | 46       | 49       |

**CFM** - cubic feet per minute

**FPM** - feet per minute velocity

**TP** - total pressure - inches w.g.

**VP** - velocity pressure - inches w.g.

**T** - throw in feet

**NC** - Noise Criteria (values) based on 10 dB room absorption, re 10<sup>-12</sup> watts.

### Performance Notes:

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

2. Data derived from tests conducted in accordance with ANSI/ASHRAE Standard 70 – 1991.

### Balancing:

It is recommended that a commercially available 'Flow Hood' is used for field balancing. The airflow meter directly reads average flow rate with great accuracy at all volumes. It is a much faster and more accurate alternative to time consuming multiple velocity readings, eliminating the use of Ak factors and the calculations required to convert the average velocity into airflow.

## PERFORATED MODULAR CORE DIFFUSERS

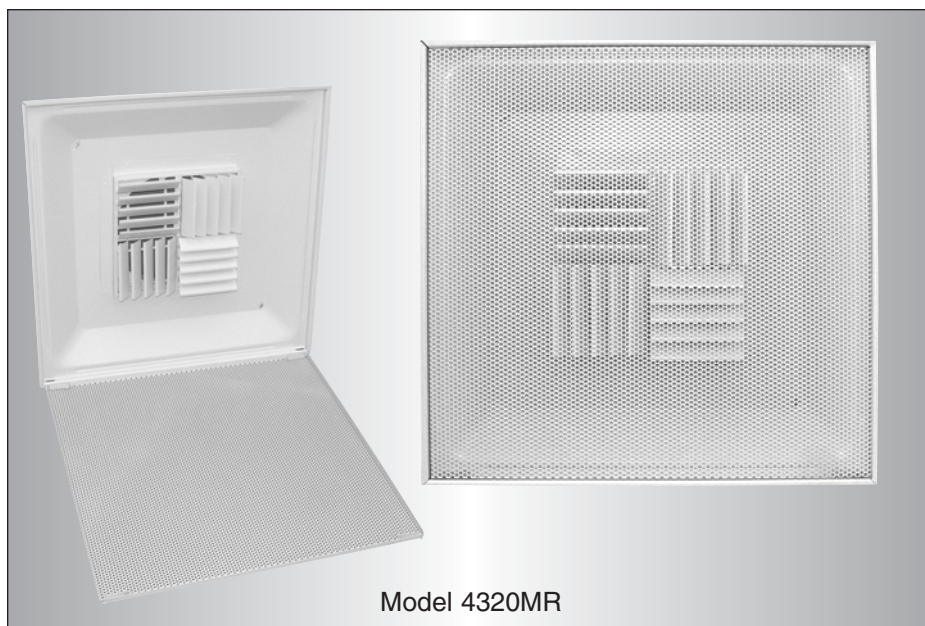
- SUPPLY
- INTEGRAL ROUND NECK
- 1, 2, 3 OR 4-WAY ADJUSTABLE DISCHARGE PATTERN

### Steel Models:

**4320MR** Flush Face  
**4325MR** Drop Face

### Aluminum Face Models:

**4320MRA** Flush Face  
**4325MRA** Drop Face



The **Nailor 4320MR Perforated Modular Core Diffusers** provide the unobtrusive, smooth appearance preferred by many architects and combines this with the flexible features of a high performance modular core design. The low profile backpan features an integral round neck which eliminates the need for adapters. Four individual spring-loaded adjustable modular pattern controllers are mounted inside the backpan. This positions the leading edge of the pattern controllers near the perforated face and flush with ceiling for optimum performance. The engineered design maintains a tight, uniform horizontal throw pattern from maximum to minimum cataloged air volumes and therefore provides excellent performance in VAV systems.

Discharge pattern can adjust to 1, 2, 3 or 4-way horizontal, before or after installation.

Discharge pattern is adjusted by dropping the perforated face and rotating the pattern deflectors. Diffusers are shipped from the factory with a 4-way discharge pattern.

The **4325MR** features a dropped (extended) face panel that is designed to compliment tegular tile ceiling systems. The face panel is suspended flush with the ceiling line, providing both an aesthetically pleasing appearance and ensuring optimal performance is maintained.

### FEATURES:

- Designed for suspended ceiling systems.
- Round neck is standard.
- Hinged, removable face plate with quick-release spring latches.
- Discharge pattern can be adjusted to a 1, 2, 3 or 4-way horizontal pattern before or after installation.
- Discharge pattern is adjusted by dropping the perforated face and rotating the modular sections.
- Inlet collar has approximately 1 1/4" (32) depth for easy duct connection.
- Perforated face with 3/16" (5) diameter holes on staggered 1/4" (6) centers, providing 51% free area.
- Dropping the perforated face and removing a modular core module gives access to the optional balancing damper.
- Return models (**4360 Series**) have the same face and frame construction as the supply models to match the appearance.

**Material:** Corrosion-resistant steel backpan and modular core. Corrosion-resistant steel or aluminum perforated face depending on model selection.

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

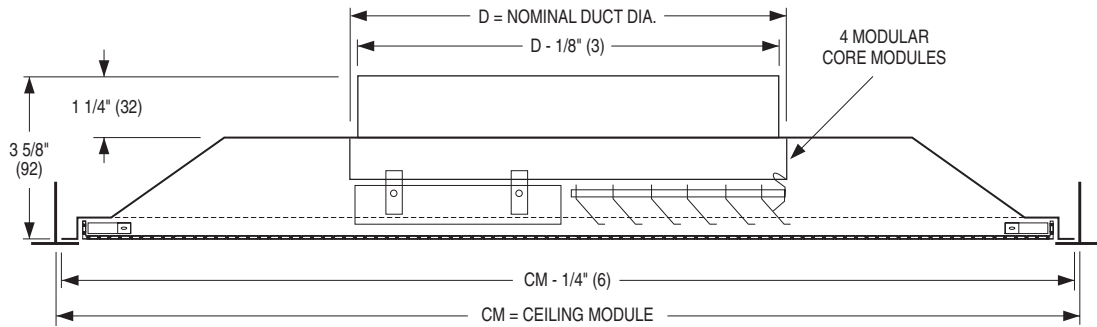
### Available Combinations of Ceiling Module vs. Neck Size

| Ceiling Module CM |                | Nominal Duct Size D           |                                        |
|-------------------|----------------|-------------------------------|----------------------------------------|
| Imperial Modules  | Metric Modules | Round Neck                    |                                        |
|                   |                | Imperial Units (in.)          | Metric Units (mm)                      |
| 12 x 12           | 300 x 300      | 6, 8 dia.                     | 152, 203 dia.                          |
| 24 x 24           | 600 x 600      | 6, 8, 10, 12, 14, 15, 16 dia. | 152, 203, 254, 305, 356, 381, 406 dia. |

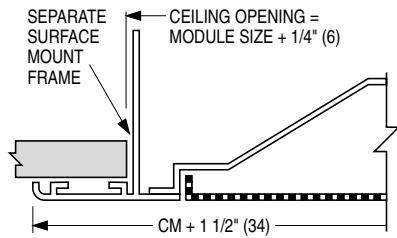
## Dimensional Data and Frame Types

Models 4320MR, 4320MRA • Flush Face • Round Neck

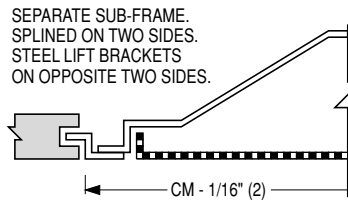
Type L Lay-in T-Bar



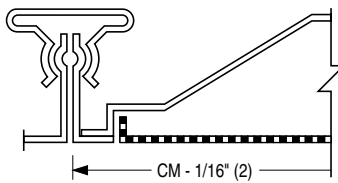
Type S Surface Mount



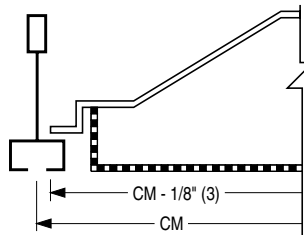
Type SP Spline



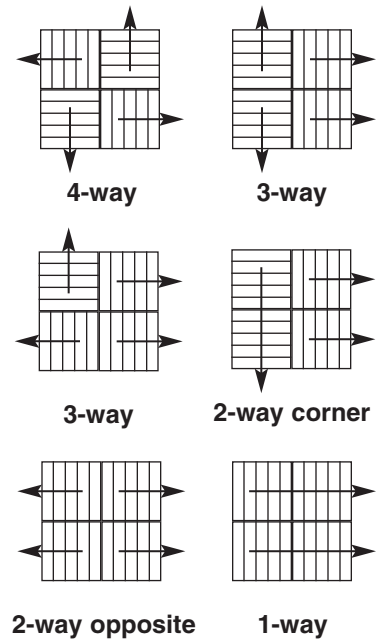
Type M Metal Pan (Snap-in)



Type F Fineline®



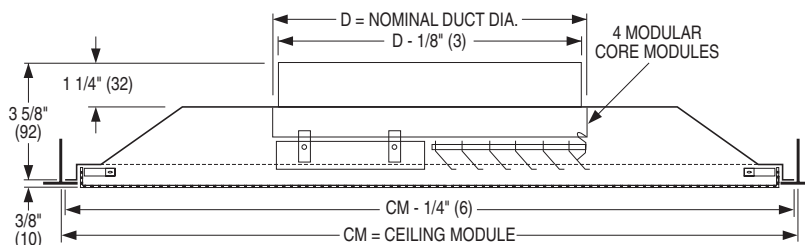
## Modular Core Adjustments



All diffusers are shipped with the standard 4-way pattern, but the air pattern can be simply field adjusted by lowering the hinged face and rotating the spring loaded pattern controllers.

Models 4325MR, 4325MRA • Drop Face • Round Neck

Type L Lay-in T-Bar or Tegular



Drop face models are also available with Type S, SP and M frames.



## HOW TO SPECIFY OR TO ORDER

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

### Perforated Modular Core Round Neck Supply Ceiling Diffusers – Model Series 4320MR

**4320MR - 08 - 24 x 24 - L - AW - -**

#### MODEL

|                 |            |         |
|-----------------|------------|---------|
| - Steel         | Flush Face | 4320MR  |
|                 | Drop Face  | 4325MR  |
| - Aluminum Face | Flush Face | 4320MRA |
|                 | Drop Face  | 4325MRA |

#### NECK SIZE

06, 08, 10, 12, 14, 15, 16 dia.  
(152, 203, 254, 305, 356, 381, 406 dia.)

#### CEILING MODULE

##### Imperial (inches) Metric (mm)

|                     |           |
|---------------------|-----------|
| - 24 x 24 (default) | 600 x 600 |
| - 12 x 12           | 300 x 300 |

#### ACCESSORIES

|                                 |     |
|---------------------------------|-----|
| - None (default)                | —   |
| - External Foil Back Insulation | EX  |
| - Earthquake Tabs               | EQT |

#### AIR BALANCING DEVICES

|                               |      |
|-------------------------------|------|
| - Radial Sliding Blade Damper | 4250 |
| - Radial Opposed Blade Damper | 4275 |
| - Butterfly Damper            | 4675 |
| - Equalizing Grid             | EGR  |
| - Damper/Equalizing Grid      | DEGR |

#### FINISH

|                             |    |
|-----------------------------|----|
| - Appliance White (default) | AW |
| - Special Custom Color      | SP |
| - AW Face/Black Backpan     | BA |

#### FRAME TYPE

|                     |    |
|---------------------|----|
| - T-Bar Lay-in      | L  |
| - Surface Mount     | S  |
| - Spline            | SP |
| - Metal Pan Snap-in | M  |
| - Finline®          | F  |

#### Notes:

1. Consult individual models as to limitations and availability of ceiling module and neck size combinations.
2. If more than one accessory is required, list in order.

#### SUGGESTED SPECIFICATION:

##### Models 4320MR, 4325MR – Steel

Furnish and install **Nailor Model** (select one) **4320MR Flush Face** or **4325MR Drop Face, Perforated Modular Core Supply Ceiling Diffusers** of the sizes and capacities as shown on the plans and air distribution schedules. The diffuser shall have a heavy gauge, stamped, corrosion-resistant steel, low profile backpan with an integral round neck. A corrosion-resistant steel perforated face shall have 3/16" (5) dia. holes on 1/4" (6) staggered centers, providing 51% free area. Mounted below the neck of the diffuser shall be four square modular pattern deflectors, factory installed in a 4-way pattern, that are easily field rotated to provide throws in 1, 2, or 3-way patterns. The face shall be removable, hinged and include quick-release spring latches allowing easy access for cleaning and rotating the deflectors (or optional damper). The finish shall be AW Appliance White baked enamel (optional finishes are available).

The manufacturer shall provide published performance data for the diffuser, which shall be tested in accordance with ANSI/ASHRAE Standard 70 – 1991.

##### Models 4320MRA, 4325MRA – Aluminum Face

Furnish and install **Nailor Model** (select one) **4320MRA Flush Face** or **4325MRA Drop Face, Perforated Modular Core Supply Ceiling Diffusers** of the sizes and capacities as shown on the plans and air distribution schedules. The diffuser shall have a heavy gauge, stamped, corrosion-resistant steel, low profile backpan with an integral round neck. An aluminum perforated face shall have 3/16" (5) dia. holes on 1/4" (6) staggered centers, providing 51% free area. Mounted below the neck of the diffuser shall be four square modular pattern deflectors, factory installed in a 4-way pattern, that are easily field rotated to provide throws in 1, 2, or 3-way patterns. The face shall be removable, hinged and include quick-release spring latches allowing easy access for cleaning and rotating the deflectors (or optional damper). The finish shall be AW Appliance White baked enamel (optional finishes are available).

The manufacturer shall provide published performance data for the diffuser, which shall be tested in accordance with ANSI/ASHRAE Standard 70 – 1991.

**D**

**CEILING DIFFUSERS**



## Performance Data

Models 4320MR, 4320MRA • 12 x 12 (300 x 300) Module Size • Round Neck

| Nominal Neck Size | Neck Velocity, FPM | 300   | 400   | 500   | 600    | 700    | 800    | 1000    |
|-------------------|--------------------|-------|-------|-------|--------|--------|--------|---------|
|                   | VP                 | .006  | .010  | .016  | .023   | .031   | .040   | .063    |
| 6" Dia.           | TP                 | .016  | .031  | .041  | .065   | .092   | .124   | .163    |
|                   | Flow Rate, CFM     | 60    | 80    | 100   | 115    | 135    | 155    | 195     |
|                   | T                  | 4-Way | 1-1-1 | 1-1-2 | 1-1-3  | 1-1-4  | 1-2-5  | 2-3-7   |
|                   |                    | 3-Way | 1-1-3 | 1-2-5 | 2-3-6  | 2-3-7  | 3-4-8  | 3-5-9   |
|                   |                    | 2-Way | 1-1-3 | 1-1-4 | 1-2-5  | 1-3-6  | 1-4-8  | 2-4-9   |
|                   |                    | 1-Way | 1-1-4 | 1-1-7 | 1-2-8  | 1-4-9  | 2-5-10 | 3-7-13  |
|                   | NC                 | —     | —     | 18    | 23     | 29     | 33     | 38      |
| 8" Dia.           | TP                 | .015  | .027  | .043  | .062   | .084   | .110   | .171    |
|                   | Flow Rate, CFM     | 105   | 140   | 175   | 210    | 245    | 280    | 350     |
|                   | T                  | 4-Way | 1-1-2 | 1-1-4 | 1-2-5  | 1-2-6  | 1-3-7  | 2-4-8   |
|                   |                    | 3-Way | 1-2-5 | 1-3-7 | 2-4-8  | 3-5-9  | 4-6-11 | 4-7-13  |
|                   |                    | 2-Way | 1-1-4 | 1-2-6 | 1-3-9  | 2-4-9  | 3-5-11 | 3-6-13  |
|                   |                    | 1-Way | 1-2-7 | 1-4-9 | 2-6-12 | 4-7-14 | 5-9-17 | 6-10-19 |
|                   | NC                 | —     | 15    | 24    | 27     | 33     | 37     | 42      |

**CFM** - cubic feet per minute

**FPM** - feet per minute velocity

**TP** - total pressure - inches w.g.

**VP** - velocity pressure - inches w.g.

**T** - throw in feet

**NC** - Noise Criteria (values) based on 10 dB room absorption, re 10<sup>-12</sup> watts.

### Performance Notes:

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

2. Data derived from tests conducted in accordance with ANSI/ASHRAE Standard 70 – 1991.

### Balancing:

It is recommended that a commercially available 'Flow Hood' is used for field balancing. The airflow meter directly reads average flow rate with great accuracy at all volumes. It is a much faster and more accurate alternative to time consuming multiple velocity readings, eliminating the use of Ak factors and the calculations required to convert the average velocity into airflow.

## Performance Data

Models 4320MR, 4320MRA • 24 x 24 (600 x 600) Module Size • Round Neck

| Nominal Neck Size | Neck Velocity, FPM | 300   | 400     | 500      | 600      | 700      | 800      | 1000     |
|-------------------|--------------------|-------|---------|----------|----------|----------|----------|----------|
|                   | VP                 | .006  | .010    | .016     | .023     | .031     | .040     | .063     |
| 6" Dia.           | TP                 | .016  | .031    | .041     | .065     | .092     | .124     | .163     |
|                   | Flow Rate, CFM     | 60    | 80      | 100      | 115      | 135      | 155      | 195      |
|                   | T                  | 4-Way | 1-1-1   | 1-1-2    | 1-1-3    | 1-1-4    | 1-2-5    | 2-3-7    |
|                   |                    | 3-Way | 1-1-3   | 1-2-5    | 2-3-6    | 2-3-7    | 3-4-9    | 4-6-13   |
|                   |                    | 2-Way | 1-1-3   | 1-1-4    | 1-2-5    | 1-3-7    | 1-4-8    | 2-4-9    |
|                   |                    | 1-Way | 1-1-4   | 1-1-7    | 1-2-8    | 1-4-10   | 2-5-12   | 3-7-14   |
|                   | NC                 | —     | —       | 16       | 21       | 26       | 30       | 37       |
| 8" Dia.           | TP                 | .015  | .027    | .043     | .062     | .084     | .110     | .171     |
|                   | Flow Rate, CFM     | 105   | 140     | 175      | 210      | 245      | 280      | 350      |
|                   | T                  | 4-Way | 1-1-2   | 1-1-4    | 1-2-5    | 1-2-6    | 1-3-7    | 2-4-8    |
|                   |                    | 3-Way | 1-2-5   | 1-3-7    | 2-4-8    | 3-5-10   | 4-6-12   | 5-9-17   |
|                   |                    | 2-Way | 1-1-4   | 1-2-6    | 1-3-8    | 2-4-9    | 3-5-11   | 4-7-14   |
|                   |                    | 1-Way | 1-2-7   | 1-4-10   | 2-6-13   | 4-7-15   | 5-9-17   | 6-10-19  |
|                   | NC                 | —     | 13      | 20       | 25       | 30       | 34       | 41       |
| 10" Dia.          | TP                 | .019  | .033    | .052     | .075     | .102     | .133     | .208     |
|                   | Flow Rate, CFM     | 165   | 220     | 270      | 325      | 380      | 435      | 545      |
|                   | T                  | 4-Way | 1-1-4   | 1-1-6    | 1-3-7    | 1-4-9    | 2-5-10   | 3-6-12   |
|                   |                    | 3-Way | 1-3-6   | 2-4-9    | 3-5-11   | 4-6-13   | 5-7-15   | 6-9-17   |
|                   |                    | 2-Way | 1-1-6   | 1-3-8    | 2-5-10   | 3-6-13   | 4-7-15   | 5-8-17   |
|                   |                    | 1-Way | 1-4-10  | 3-7-14   | 5-9-18   | 7-10-20  | 8-12-21  | 9-14-23  |
|                   | NC                 | —     | 16      | 23       | 28       | 33       | 37       | 44       |
| 12" Dia.          | TP                 | .023  | .040    | .063     | .091     | .124     | .162     | .253     |
|                   | Flow Rate, CFM     | 235   | 315     | 390      | 470      | 550      | 630      | 785      |
|                   | T                  | 4-Way | 1-1-6   | 1-2-8    | 2-4-10   | 2-6-12   | 3-7-13   | 5-8-14   |
|                   |                    | 3-Way | 1-3-8   | 3-5-11   | 4-6-13   | 5-8-15   | 6-9-17   | 7-11-18  |
|                   |                    | 2-Way | 1-2-8   | 2-5-11   | 3-6-13   | 5-8-16   | 6-9-17   | 7-11-18  |
|                   |                    | 1-Way | 3-7-14  | 5-9-19   | 8-12-21  | 9-14-23  | 11-17-25 | 13-19-27 |
|                   | NC                 | —     | 19      | 26       | 31       | 36       | 40       | 47       |
| 14" Dia.          | TP                 | .027  | .049    | .076     | .110     | .149     | .195     | .304     |
|                   | Flow Rate, CFM     | 320   | 425     | 535      | 640      | 750      | 855      | 1070     |
|                   | T                  | 4-Way | 1-2-8   | 1-4-11   | 2-6-13   | 4-8-14   | 5-9-15   | 7-11-16  |
|                   |                    | 3-Way | 2-4-10  | 3-6-12   | 5-8-13   | 6-10-15  | 7-11-16  | 8-12-17  |
|                   |                    | 2-Way | 1-4-10  | 3-6-13   | 5-8-15   | 6-10-16  | 7-11-18  | 9-13-19  |
|                   |                    | 1-Way | 4-9-19  | 8-13-22  | 10-16-24 | 13-19-27 | 15-20-29 | 17-22-31 |
|                   | NC                 | 14    | 23      | 30       | 35       | 40       | 44       | 51       |
| 16" Dia.          | TP                 | .033  | .059    | .092     | .132     | .180     | .235     | .368     |
|                   | Flow Rate, CFM     | 420   | 560     | 700      | 835      | 975      | 1115     | 1295     |
|                   | T                  | 4-Way | 1-3-10  | 2-5-13   | 3-8-15   | 5-10-16  | 7-12-17  | 9-13-19  |
|                   |                    | 3-Way | 3-5-9   | 5-7-10   | 6-8-11   | 7-9-12   | 8-9-13   | 9-10-14  |
|                   |                    | 2-Way | 2-5-11  | 4-8-13   | 6-10-14  | 8-11-16  | 9-12-17  | 10-13-18 |
|                   |                    | 1-Way | 7-12-21 | 11-17-24 | 14-19-27 | 17-21-30 | 18-23-32 | 20-24-35 |
|                   | NC                 | 15    | 24      | 31       | 36       | 41       | 45       | 52       |

**CFM** - cubic feet per minute

**FPM** - feet per minute velocity

**TP** - total pressure - inches w.g.

**VP** - velocity pressure - inches w.g.

**T** - throw in feet

**NC** - Noise Criteria (values) based on 10 dB room absorption, re 10<sup>-12</sup> watts.

### Performance Notes:

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

2. Data derived from tests conducted in accordance with ANSI/ASHRAE Standard 70 – 1991.

### Balancing:

It is recommended that a commercially available 'Flow Hood' is used for field balancing. The airflow meter directly reads average flow rate with great accuracy at all volumes. It is a much faster and more accurate alternative to time consuming multiple velocity readings, eliminating the use of Ak factors and the calculations required to convert the average velocity into airflow.

## PERFORATED MODULAR CORE DIFFUSERS

- SUPPLY
- SURFACE MOUNT
- FULL FACE SQUARE NECK
- 1, 2, 3 OR 4-WAY ADJUSTABLE DISCHARGE PATTERN

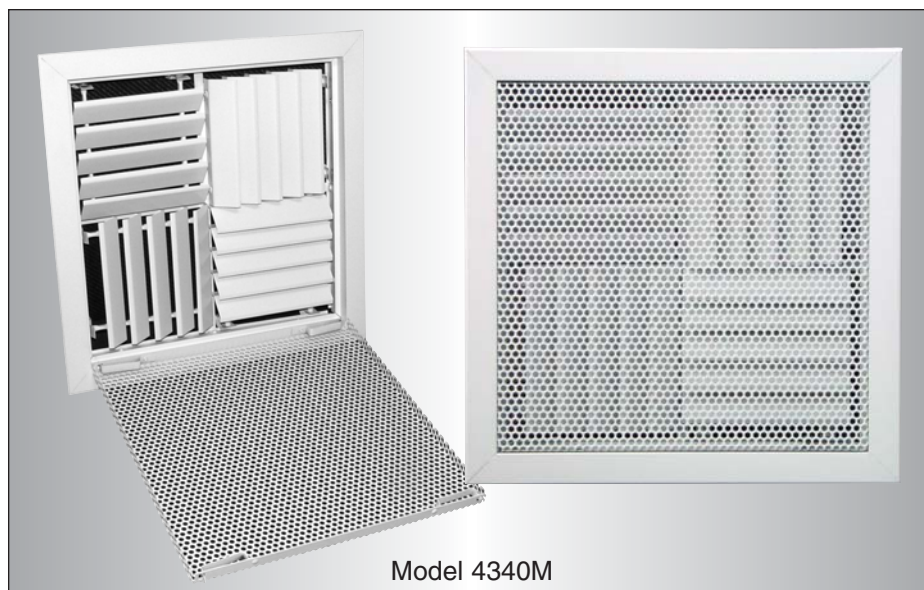
### Steel Face Model:

**4340M**

### Aluminum Face Model:

**4340MA**

- Suffix '-O' adds a steel opposed blade damper



The **Nailor 4340M Modular Core Diffusers** are designed to compliment the Nailor **4320M** and **4320MR** modular ceiling diffusers and feature the same flexible high performance modular core design. The four individual, spring-loaded modular pattern controllers are mounted in the diffuser frame and position the leading edge of the pattern controllers near the perforated face and flush with the ceiling for optimum performance. The engineered design maintains a tight, uniform horizontal throw pattern from maximum to minimum cataloged air volumes, providing excellent performance in VAV systems.

The **4340M** is a square neck grille frame design, featuring full face pattern controllers, for surface mount installation in hard ceilings. Discharge pattern can adjust to 1, 2, 3 or 4-way horizontal, before or after installation. Discharge pattern is adjusted by dropping the perforated face and rotating the pattern deflectors. Diffusers are shipped from the factory with a 4-way discharge pattern.

### FEATURES:

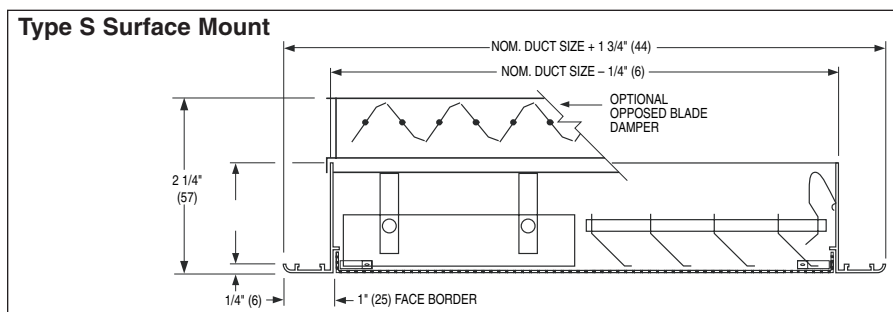
- Hinged removable face plate with quick-release spring latches.
- Discharge pattern can be adjusted to a 1, 2, 3 or 4-way horizontal pattern before or after installation.
- Discharge pattern is adjusted by dropping the perforated face and rotating the modular sections.
- Frame is mechanically interlocked for strength with hairline mitered corners.
- Perforated face has 3/16" (5) diameter holes on 1/4" (6) staggered centers, providing 51% free area.
- Type N standard fastening is with sheet metal screws (by others), through the neck of the diffuser outer frame. Optional Type A countersunk screw holes on face of outer frame.
- Dropping the perforated face and removing a modular core gives access to the optional opposed blade damper.

- Return models (**4340R Series**) have the same face and frame construction as the supply models to match the appearance.

**Material:** Extruded aluminum frame. Corrosion-resistant steel modular core. Corrosion-resistant steel or aluminum perforated face depending on model selection.

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

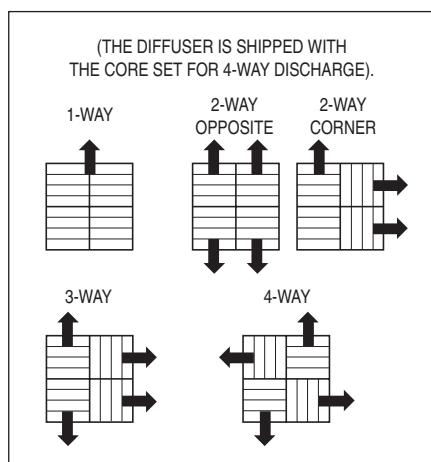
### Dimensional Data



### Available Duct Sizes

|                     |                     |                     |
|---------------------|---------------------|---------------------|
| 6 x 6 (152 x 152)   | 12 x 12 (305 x 305) | 18 x 18 (457 x 457) |
| 8 x 8 (203 x 203)   | 14 x 14 (356 x 356) | 20 x 20 (508 x 508) |
| 9 x 9 (229 x 229)   | 15 x 15 (381 x 381) | 22 x 22 (559 x 559) |
| 10 x 10 (254 x 254) | 16 x 16 (406 x 406) | 24 x 24 (610 x 610) |

### Modular Core Adjustments



## HOW TO SPECIFY OR TO ORDER

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

### Perforated Full Face Modular Core Supply Ceiling Diffusers – Model Series 4340M

**4340M - - - 12 x 12 - S - AW - N - -**

#### MODEL

- Steel Face 4340M
- Aluminum Face 4340MA

#### DAMPER

- No Damper (default) -
- Opposed Blade Damper O

#### NECK SIZE (inches)

6 x 6, 8 x 8, 10 x 10, 12 x 12,  
14 x 14, 16 x 16, 18 x 18,  
20 x 20, 22 x 22, 24 x 24

#### FRAME TYPE

- Surface Mount (default) S

#### ACCESSORIES

- None (default) —
- Foam Gasket GK
- Earthquake Tabs EQT

#### AIR BALANCING DEVICES

- Equalizing Grid EGL
- Damper/Equalizing Grid DEGL

#### FASTENING

- None (default) N
- (installs through neck of frame)
- Countersunk holes on outer frame A

#### FINISH

- Appliance White (default) AW
- Special Custom Color SP

**D**

**CEILING DIFFUSERS**

#### Notes:

1. If more than one accessory is required, list in order.

#### SUGGESTED SPECIFICATION:

Furnish and install **Nailor Model** (select one) **4340M** (corrosion-resistant steel with aluminum frame) or **4340MA** (aluminum frame and face) **Full Face Square Neck Perforated Supply Modular Core Ceiling Diffusers** of the sizes and capacities as shown on the plans and air distribution schedules. The diffuser shall have a mechanically interlocked extruded aluminum frame with hairline mitered corners. Mounted in the diffuser shall be four, corrosion-resistant steel, square modular pattern deflectors installed in a 4-way pattern, that are easily field rotated to provide throws in 1, 2, or 3-way patterns. The modular core shall be sized according to the square neck size as specified. The perforated face shall have 3/16" (5) dia. holes on 1/4" (6) staggered centers, providing 51% free area. The face shall be removable, hinged and include quick-release spring latches allowing easy access for cleaning and rotating the deflectors (or optional damper). The diffuser shall be fastened through the neck with sheet metal screws (supplied by the installing contractor). The finish shall be AW Appliance White baked enamel (optional finishes are available).

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

The manufacturer shall provide published performance data for the diffuser, which shall be tested in accordance with ANSI/ASHRAE Standard 70 – 1991.

## Performance Data

### Models 4340M, 4340MA • Surface Mount • Square Neck

| Nominal Neck Size | Neck Velocity, FPM | 300                                                            | 400                                       | 500                                         | 600                                          | 700                                          | 800                                          |
|-------------------|--------------------|----------------------------------------------------------------|-------------------------------------------|---------------------------------------------|----------------------------------------------|----------------------------------------------|----------------------------------------------|
|                   | VP                 | .006                                                           | .010                                      | .016                                        | .023                                         | .031                                         | .040                                         |
|                   | TP                 | .028                                                           | .047                                      | .075                                        | .103                                         | .146                                         | .188                                         |
| 6 x 6             | Flow Rate, CFM     | 75                                                             | 100                                       | 125                                         | 150                                          | 175                                          | 200                                          |
|                   | T                  | 4-Way 2-3-7<br>3-Way 3-4-8<br>2-Way 4-5-10<br>1-Way 4-7-13     | 3-4-8<br>4-5-9<br>5-7-12<br>6-9-15        | 4-5-8<br>4-7-10<br>6-9-13<br>7-11-17        | 4-7-9<br>5-8-11<br>7-10-15<br>9-13-18        | 5-7-10<br>6-8-12<br>8-11-16<br>10-14-20      | 6-8-11<br>7-9-13<br>9-12-17<br>12-15-21      |
|                   | NC                 | -                                                              | -                                         | 19                                          | 25                                           | 31                                           | 35                                           |
|                   | Flow Rate, CFM     | 133                                                            | 176                                       | 222                                         | 267                                          | 311                                          | 356                                          |
|                   | T                  | 4-Way 2-4-8<br>3-Way 2-5-9<br>2-Way 3-6-12<br>1-Way 4-8-15     | 3-5-10<br>4-6-12<br>5-8-16<br>7-10-20     | 4-6-11<br>5-8-13<br>7-10-18<br>8-13-22      | 5-8-12<br>6-9-15<br>8-12-20<br>10-15-25      | 6-9-13<br>7-11-18<br>10-14-25<br>12-18-31    | 7-10-14<br>8-12-17<br>11-16-23<br>14-20-28   |
| 8 x 8             | Flow Rate, CFM     | 208                                                            | 278                                       | 347                                         | 417                                          | 486                                          | 556                                          |
|                   | T                  | 4-Way 2-5-9<br>3-Way 3-5-11<br>2-Way 3-7-14<br>1-Way 4-9-18    | 4-6-12<br>5-7-14<br>6-10-19<br>8-12-24    | 5-8-14<br>6-9-17<br>8-12-22<br>10-15-28     | 6-9-15<br>7-11-18<br>10-14-25<br>12-18-31    | 7-11-17<br>8-13-20<br>11-17-27<br>14-21-33   | 8-12-18<br>10-14-21<br>13-19-28<br>16-24-35  |
|                   | NC                 | -                                                              | 16                                        | 24                                          | 30                                           | 36                                           | 41                                           |
|                   | Flow Rate, CFM     | 300                                                            | 400                                       | 500                                         | 600                                          | 700                                          | 800                                          |
|                   | T                  | 4-Way 2-5-11<br>3-Way 3-6-13<br>2-Way 4-8-17<br>1-Way 5-11-21  | 4-7-14<br>5-8-17<br>7-11-22<br>9-14-28    | 6-9-17<br>7-11-20<br>9-14-27<br>12-18-34    | 7-11-18<br>8-13-22<br>11-17-29<br>14-21-37   | 8-12-20<br>10-15-24<br>13-20-32<br>16-25-40  | 9-14-21<br>11-17-26<br>15-22-34<br>19-28-43  |
| 10 x 10           | Flow Rate, CFM     | 408                                                            | 544                                       | 681                                         | 817                                          | 953                                          | 1089                                         |
|                   | T                  | 4-Way 3-6-12<br>3-Way 3-7-15<br>2-Way 4-10-19<br>1-Way 5-12-24 | 5-8-16<br>6-10-19<br>8-13-26<br>10-16-32  | 7-10-20<br>8-12-24<br>11-16-31<br>13-20-39  | 8-12-21<br>10-15-26<br>13-19-34<br>16-24-43  | 9-14-23<br>11-17-28<br>15-23-37<br>19-28-46  | 11-16-25<br>13-19-30<br>17-26-40<br>22-32-50 |
|                   | NC                 | -                                                              | 19                                        | 27                                          | 34                                           | 39                                           | 44                                           |
|                   | Flow Rate, CFM     | 469                                                            | 625                                       | 781                                         | 938                                          | 1094                                         | 1250                                         |
|                   | T                  | 4-Way 3-6-13<br>3-Way 3-8-15<br>2-Way 5-10-21<br>1-Way 6-13-26 | 5-9-17<br>6-10-21<br>8-14-28<br>10-17-34  | 7-11-21<br>9-13-25<br>11-17-34<br>14-22-42  | 9-13-23<br>10-15-28<br>14-21-37<br>17-26-46  | 10-15-25<br>12-18-30<br>16-24-40<br>20-30-50 | 11-17-27<br>14-21-32<br>18-28-43<br>23-34-53 |
| 12 x 12           | Flow Rate, CFM     | 533                                                            | 711                                       | 889                                         | 1067                                         | 1244                                         | 1422                                         |
|                   | T                  | 4-Way 3-7-14<br>3-Way 4-8-16<br>2-Way 5-11-22<br>1-Way 6-13-27 | 5-9-18<br>6-11-22<br>8-15-29<br>11-18-37  | 8-11-22<br>9-14-27<br>12-18-36<br>15-23-45  | 9-14-25<br>11-16-29<br>15-22-39<br>18-27-49  | 11-16-27<br>13-19-32<br>17-26-42<br>21-32-53 | 12-18-28<br>15-22-34<br>20-29-45<br>24-37-57 |
|                   | NC                 | -                                                              | 21                                        | 29                                          | 35                                           | 41                                           | 46                                           |
|                   | Flow Rate, CFM     | 675                                                            | 900                                       | 1125                                        | 1350                                         | 1575                                         | 1800                                         |
|                   | T                  | 4-Way 3-7-15<br>3-Way 4-9-18<br>2-Way 5-12-25<br>1-Way 7-15-31 | 6-10-20<br>7-12-25<br>9-16-33<br>12-20-41 | 9-13-25<br>10-15-30<br>14-20-40<br>17-26-50 | 10-15-28<br>12-18-33<br>16-25-44<br>20-31-55 | 12-18-30<br>14-21-36<br>19-29-48<br>24-36-60 | 14-20-32<br>16-25-38<br>22-33-51<br>27-41-64 |
| 14 x 14           | Flow Rate, CFM     | 675                                                            | 900                                       | 1125                                        | 1350                                         | 1575                                         | 1800                                         |
|                   | T                  | 4-Way 3-7-15<br>3-Way 4-9-18<br>2-Way 5-12-25<br>1-Way 7-15-31 | 6-10-20<br>7-12-25<br>9-16-33<br>12-20-41 | 9-13-25<br>10-15-30<br>14-20-40<br>17-26-50 | 10-15-28<br>12-18-33<br>16-25-44<br>20-31-55 | 12-18-30<br>14-21-36<br>19-29-48<br>24-36-60 | 14-20-32<br>16-25-38<br>22-33-51<br>27-41-64 |
|                   | NC                 | -                                                              | 22                                        | 30                                          | 37                                           | 42                                           | 47                                           |
|                   | Flow Rate, CFM     | 675                                                            | 900                                       | 1125                                        | 1350                                         | 1575                                         | 1800                                         |
|                   | T                  | 4-Way 3-7-15<br>3-Way 4-9-18<br>2-Way 5-12-25<br>1-Way 7-15-31 | 6-10-20<br>7-12-25<br>9-16-33<br>12-20-41 | 9-13-25<br>10-15-30<br>14-20-40<br>17-26-50 | 10-15-28<br>12-18-33<br>16-25-44<br>20-31-55 | 12-18-30<br>14-21-36<br>19-29-48<br>24-36-60 | 14-20-32<br>16-25-38<br>22-33-51<br>27-41-64 |
| 16 x 16           | Flow Rate, CFM     | 675                                                            | 900                                       | 1125                                        | 1350                                         | 1575                                         | 1800                                         |
|                   | T                  | 4-Way 3-7-15<br>3-Way 4-9-18<br>2-Way 5-12-25<br>1-Way 7-15-31 | 6-10-20<br>7-12-25<br>9-16-33<br>12-20-41 | 9-13-25<br>10-15-30<br>14-20-40<br>17-26-50 | 10-15-28<br>12-18-33<br>16-25-44<br>20-31-55 | 12-18-30<br>14-21-36<br>19-29-48<br>24-36-60 | 14-20-32<br>16-25-38<br>22-33-51<br>27-41-64 |
|                   | NC                 | -                                                              | 22                                        | 30                                          | 37                                           | 42                                           | 47                                           |
|                   | Flow Rate, CFM     | 675                                                            | 900                                       | 1125                                        | 1350                                         | 1575                                         | 1800                                         |
|                   | T                  | 4-Way 3-7-15<br>3-Way 4-9-18<br>2-Way 5-12-25<br>1-Way 7-15-31 | 6-10-20<br>7-12-25<br>9-16-33<br>12-20-41 | 9-13-25<br>10-15-30<br>14-20-40<br>17-26-50 | 10-15-28<br>12-18-33<br>16-25-44<br>20-31-55 | 12-18-30<br>14-21-36<br>19-29-48<br>24-36-60 | 14-20-32<br>16-25-38<br>22-33-51<br>27-41-64 |
| 18 x 18           | Flow Rate, CFM     | 675                                                            | 900                                       | 1125                                        | 1350                                         | 1575                                         | 1800                                         |
|                   | T                  | 4-Way 3-7-15<br>3-Way 4-9-18<br>2-Way 5-12-25<br>1-Way 7-15-31 | 6-10-20<br>7-12-25<br>9-16-33<br>12-20-41 | 9-13-25<br>10-15-30<br>14-20-40<br>17-26-50 | 10-15-28<br>12-18-33<br>16-25-44<br>20-31-55 | 12-18-30<br>14-21-36<br>19-29-48<br>24-36-60 | 14-20-32<br>16-25-38<br>22-33-51<br>27-41-64 |
|                   | NC                 | -                                                              | 22                                        | 30                                          | 37                                           | 42                                           | 47                                           |
|                   | Flow Rate, CFM     | 675                                                            | 900                                       | 1125                                        | 1350                                         | 1575                                         | 1800                                         |
|                   | T                  | 4-Way 3-7-15<br>3-Way 4-9-18<br>2-Way 5-12-25<br>1-Way 7-15-31 | 6-10-20<br>7-12-25<br>9-16-33<br>12-20-41 | 9-13-25<br>10-15-30<br>14-20-40<br>17-26-50 | 10-15-28<br>12-18-33<br>16-25-44<br>20-31-55 | 12-18-30<br>14-21-36<br>19-29-48<br>24-36-60 | 14-20-32<br>16-25-38<br>22-33-51<br>27-41-64 |

**CFM** - cubic feet per minute

**FPM** - feet per minute velocity

**TP** - total pressure - inches w.g.

**VP** - velocity pressure - inches w.g.

**T** - throw in feet

**NC** - Noise Criteria (values) based on 10 dB room absorption, re 10<sup>-12</sup> watts.

#### Performance Notes:

1. Throws are given at 150, 100 and 50 fpm terminal velocities under isothermal conditions.
2. Data derived from tests conducted in accordance with ANSI/ASHRAE Standard 70 – 1991.

#### Balancing:

It is recommended that a commercially available 'Flow Hood' is used for field balancing. The airflow meter directly reads average flow rate with great accuracy at all volumes. It is a much faster and more accurate alternative to time consuming multiple velocity readings, eliminating the use of Ak factors and the calculations required to convert the average velocity into airflow.



## PERFORATED CEILING DIFFUSERS

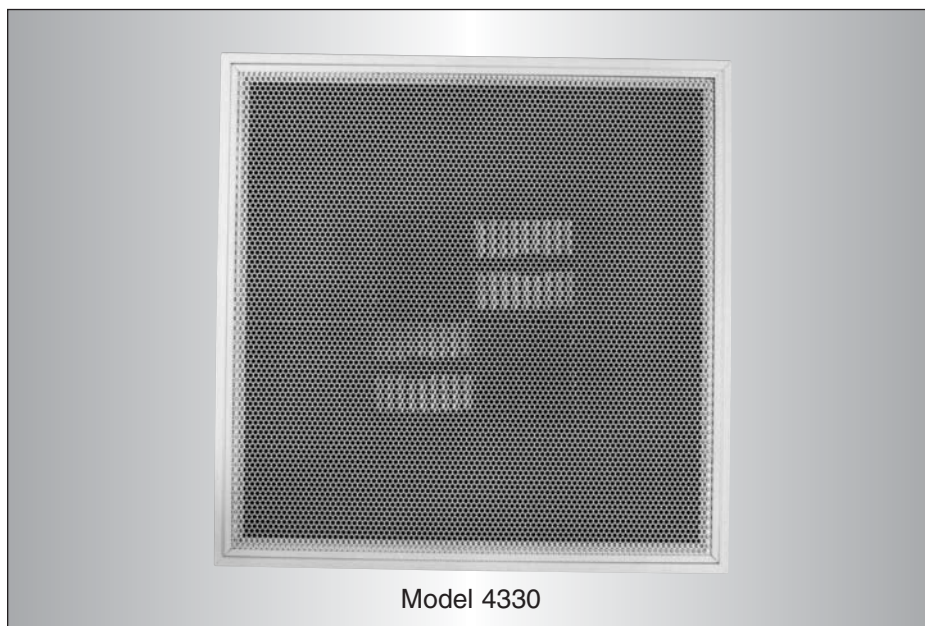
- SUPPLY
- PREMIUM ARCHITECTURAL QUALITY
- 1, 2, 3 OR 4-WAY ADJUSTABLE DISCHARGE PATTERN

### Steel Face Model:

**4330 Flush Face**

### Aluminum Face Model:

**4330A Flush Face**



The **Nailor Perforated Ceiling Diffusers** have been designed to provide both the unobtrusive, smooth appearance preferred by many architects and the high engineering performance required for use in heating and cooling applications. They project a tight, uniform horizontal blanket of air over a wide range of air volumes and provide excellent performance in variable air volume systems.

The **4330 Series** features an extruded aluminum frame with hairline mitered corners that encapsulates the perforated face providing a narrow, visible border within the T-Bar module. Four individual stamped pattern controllers mounted on the rear of the diffuser face are easily field adjustable to suit the desired air pattern.

### FEATURES:

- Round or square necks available.
- Hinged, removable face plate with quick-release spring latches.
- Discharge pattern can adjust to vertical or 1, 2, 3 or 4-way horizontal, before or after installation.
- Discharge pattern is adjusted by dropping the perforated face and rotating the pattern deflectors.
- Inlet collar has 1 1/4" (32) depth for easy duct connection.
- Dropping the perforated face gives access to the optional damper.
- Perforated face has 3/16" (5) diameter holes on staggered 1/4" (6) centers, providing 51% free area
- Return models (**4330R Series**) are available with the same face and frame construction as the supply models to match their appearance.

**Material:** Extruded aluminum border and frame, corrosion-resistant steel backpan. Corrosion-resistant steel or aluminum perforated face depending on model selection.

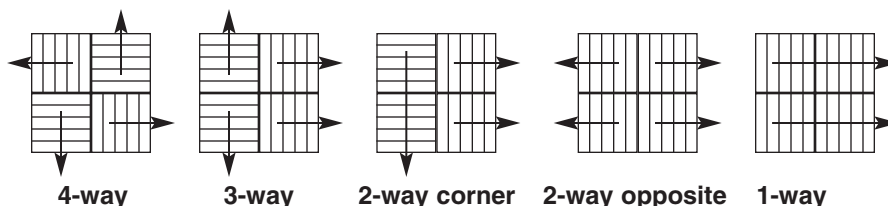
**Finish:** AW Appliance White baked enamel finish is standard. Other finishes are available.

**D**

**CEILING DIFFUSERS**

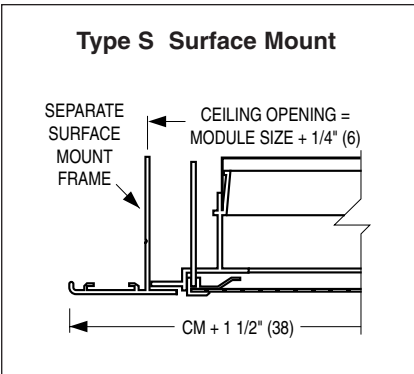
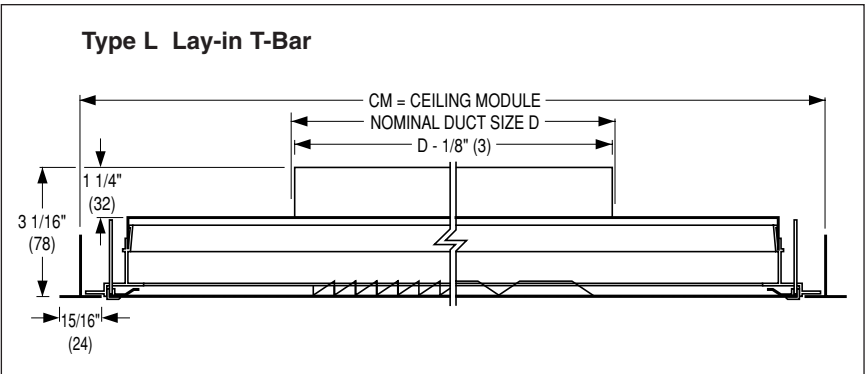
### Available Air Patterns

All diffusers are shipped with the standard 4-way pattern, but the air pattern can be simply field adjusted by lowering the hinged face and rotating the spring loaded pattern controllers.



Dimensional Data and Frame Types

Models 4330, 4330A • Supply • Flush Face



Available Combinations of Ceiling Module vs. Neck Size

| Ceiling Module CM |                | Nominal Duct Size D      |                                   |                                         |                                                       |
|-------------------|----------------|--------------------------|-----------------------------------|-----------------------------------------|-------------------------------------------------------|
| Imperial Modules  | Metric Modules | Round Neck               |                                   | Square Neck                             |                                                       |
|                   |                | Imperial Units (in.)     | Metric Units (mm)                 | Imperial Units (in.)                    | Metric Units (mm)                                     |
| 12 x 12           | 300 x 300      | 5, 6, 7, 8               | 127, 152, 178, 203                | 6 x 6, 8 x 8                            | 152 x 152, 203 x 203                                  |
| 24 x 12           | 600 x 300      | 5, 6, 7, 8               | 127, 152, 178, 203                | 6 x 6, 8 x 8, 18 x 6                    | 152 x 152, 203 x 203, 457 x 152                       |
| 16 x 16           | 400 x 400      | 5, 6, 7, 8, 10           | 127, 152, 178, 203, 254           | 6 x 6, 8 x 8                            | 152 x 152, 203 x 203                                  |
| 20 x 20           | 500 x 500      | 5, 6, 7, 8, 10, 12, 14   | 127, 152, 178, 203, 254, 305, 356 | 6 x 6, 8 x 8, 10 x 10                   | 152 x 152, 203 x 203, 254 x 254                       |
| 24 x 24           | 600 x 600      | 6, 8, 10, 12, 14, 15, 16 | 152, 203, 254, 305, 356, 381, 406 | 6 x 6, 8 x 8, 10 x 10, 12 x 12, 14 x 14 | 152 x 152, 203 x 203, 254 x 254, 305 x 305, 356 x 356 |



## HOW TO SPECIFY OR TO ORDER

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

### Premium Perforated Supply Ceiling Diffusers – Model Series 4330

4330 - 08 - 24 x 24 - L - AW - -

#### MODEL

- Steel Face 4330
- Aluminum Face 4330A

#### NECK SIZE (inches)

##### Round

05, 06, 07, 08, 10, 12, 14, 15, 16

##### Square/Rectangular

6 x 6, 8 x 8, 10 x 10, 12 x 12,  
14 x 14, 15 x 15, 16 x 16, 18 x 6

#### CEILING MODULE

##### Imperial (inches) Metric (mm)

- 12 x 12 300 x 300
- 16 x 16 400 x 400
- 20 x 20 500 x 500
- 24 x 12 600 x 300
- 24 x 24 600 x 600
- 48 x 24 1200 x 600

#### ACCESSORIES

- None (default) —
- External Foil Back Insulation EX
- Earthquake Tabs EQT

#### AIR BALANCING DEVICES

##### Round Neck

- Radial Sliding Blade Damper 4250
- Radial Opposed Blade Damper 4275
- Butterfly Damper 4675
- Equalizing Grid EGR
- Damper/Equalizing Grid DEGR

##### Square/Rectangular Neck

- Opposed Blade Damper OBD
- Equalizing Grid (long) EGL
- Equalizing Grid (short) EGS
- Damper/Equalizing Grid (long) DEGL
- Damper/Equalizing Grid (short) DEGS

#### FINISH

- Appliance White (default) AW
- Special Custom Color SP
- AW Face/Black Backpan BA

#### FRAME TYPE

- Lay-in T-Bar L
- Surface Mount S

D

CEILING DIFFUSERS

#### Note:

1. Consult individual models as to limitations and availability of ceiling module and neck size combinations.
2. If more than one accessory is required, list in order.

#### SUGGESTED SPECIFICATION:

Furnish and install **Nailor Model** (select one) **4330** (corrosion-resistant steel face) or **4330A** (aluminum face) **Premium Architectural Perforated Supply Ceiling Diffusers** of the sizes and capacities as shown on the plans and air distribution schedules. The diffuser shall have a corrosion-resistant steel backpan with a round or square neck as specified, and an extruded aluminum border/frame that encapsulates the perforated face. The perforated face shall have 3/16" (5) dia. holes on 1/4" (6) staggered centers, providing 51% free area. Mounted on the rear of the perforated face shall be four individually stamped, square pattern deflectors that are easily field rotated to provide throws in 1, 2, 3 or 4-way patterns. The face shall include spring latches allowing easy access for cleaning and adjusting the deflectors (or optional damper). The finish shall be AW Appliance White baked enamel (optional finishes are available).

The manufacturer shall provide published performance data for the diffuser, which shall be tested in accordance with ANSI/ASHRAE Standard 70 – 1991.

## Performance Data

### Models 4330, 4330A • Flush Face • 12 x 12 (300 x 300) Module Size

| Nominal Neck Size | Neck Velocity, FPM | 300                                                         | 400                                | 500                                  | 600                                  | 700                                   | 800                                    | 1000                                      | 1200                                       | 1400                                        |
|-------------------|--------------------|-------------------------------------------------------------|------------------------------------|--------------------------------------|--------------------------------------|---------------------------------------|----------------------------------------|-------------------------------------------|--------------------------------------------|---------------------------------------------|
|                   | VP                 | .006                                                        | .010                               | .016                                 | .023                                 | .031                                  | .040                                   | .063                                      | .090                                       | .123                                        |
| 5" Dia.           | TP                 | .011                                                        | .019                               | .030                                 | .044                                 | .059                                  | .076                                   | .120                                      | .171                                       | .234                                        |
|                   | Flow Rate, CFM     | 40                                                          | 55                                 | 70                                   | 80                                   | 95                                    | 110                                    | 135                                       | 165                                        | 190                                         |
|                   | T                  | 4-Way<br>1-2-4<br>3-Way<br>1-2-5<br>2-Way<br>2-3-6<br>1-Way | 2-2-5<br>2-3-6<br>2-3-6<br>2-4-8   | 2-3-6<br>2-3-7<br>2-4-8<br>3-5-9     | 2-4-7<br>2-4-8<br>3-5-10<br>4-6-10   | 3-5-7<br>3-5-9<br>4-6-10<br>5-7-11    | 3-6-8<br>4-6-10<br>4-7-12<br>6-8-13    | 5-6-9<br>5-7-10<br>6-8-13<br>6-9-13       | 6-7-10<br>6-8-12<br>7-10-14<br>8-10-14     | 6-7-10<br>6-9-13<br>7-10-15<br>9-10-15      |
|                   | NC                 | —                                                           | —                                  | 15                                   | 20                                   | 24                                    | 28                                     | 34                                        | 39                                         | 43                                          |
|                   | TP                 | .015                                                        | .025                               | .040                                 | .058                                 | .078                                  | .100                                   | .158                                      | .225                                       | .308                                        |
| 6" Dia.           | Flow Rate, CFM     | 60                                                          | 80                                 | 100                                  | 120                                  | 140                                   | 160                                    | 195                                       | 235                                        | 275                                         |
|                   | T                  | 4-Way<br>1-2-4<br>3-Way<br>1-2-5<br>2-Way<br>2-3-6<br>1-Way | 2-3-5<br>2-3-6<br>2-3-7<br>3-4-9   | 3-3-7<br>3-3-8<br>3-4-9<br>3-5-11    | 3-4-8<br>3-4-9<br>3-5-10<br>4-6-11   | 3-5-8<br>3-5-10<br>4-6-11<br>5-8-12   | 3-6-9<br>4-6-10<br>4-7-12<br>6-9-13    | 5-7-10<br>5-8-11<br>6-9-14<br>7-10-15     | 6-8-10<br>6-9-13<br>7-10-15<br>9-10-16     | 7-8-11<br>7-10-14<br>8-11-17<br>10-12-17    |
|                   | NC                 | —                                                           | —                                  | 17                                   | 22                                   | 26                                    | 30                                     | 36                                        | 41                                         | 45                                          |
|                   | TP                 | .016                                                        | .028                               | .040                                 | .066                                 | .092                                  | .118                                   | .187                                      | .262                                       | .360                                        |
|                   | Flow Rate, CFM     | 80                                                          | 105                                | 135                                  | 160                                  | 190                                   | 215                                    | 270                                       | 320                                        | 375                                         |
| 7" Dia.           | T                  | 4-Way<br>1-2-5<br>3-Way<br>1-2-6<br>2-Way<br>2-4-8<br>1-Way | 2-3-6<br>2-4-7<br>2-4-9<br>3-5-11  | 3-4-9<br>3-4-10<br>3-5-11<br>4-6-12  | 3-5-10<br>3-5-11<br>4-6-12<br>5-8-13 | 4-6-10<br>4-6-12<br>5-8-14<br>6-10-14 | 4-8-11<br>5-8-13<br>5-9-15<br>8-11-15  | 6-9-12<br>6-10-14<br>7-11-17<br>9-12-17   | 8-10-13<br>7-11-16<br>9-13-18<br>11-13-18  | 9-10-14<br>9-12-17<br>10-14-20<br>12-14-20  |
|                   | NC                 | —                                                           | 15                                 | 21                                   | 26                                   | 30                                    | 34                                     | 40                                        | 45                                         | 49                                          |
|                   | TP                 | .019                                                        | .034                               | .053                                 | .077                                 | .104                                  | .136                                   | .213                                      | .306                                       | .417                                        |
|                   | Flow Rate, CFM     | 105                                                         | 140                                | 175                                  | 210                                  | 245                                   | 280                                    | 350                                       | 420                                        | 490                                         |
|                   | T                  | 4-Way<br>1-3-6<br>3-Way<br>1-3-7<br>2-Way<br>3-4-9<br>1-Way | 2-4-8<br>2-4-8<br>2-5-10<br>4-6-12 | 4-4-10<br>4-5-11<br>4-6-12<br>5-7-13 | 4-6-11<br>4-6-13<br>4-7-14<br>6-9-14 | 4-7-12<br>5-7-13<br>5-8-15<br>7-10-15 | 5-8-12<br>5-9-14<br>6-10-17<br>8-12-17 | 6-10-13<br>7-11-16<br>8-12-19<br>10-13-19 | 8-11-14<br>9-13-18<br>10-14-21<br>13-14-21 | 9-12-16<br>10-13-19<br>12-16-22<br>13-16-22 |
|                   | NC                 | —                                                           | 17                                 | 23                                   | 28                                   | 32                                    | 36                                     | 42                                        | 47                                         | 51                                          |
| 6 x 6             | TP                 | .018                                                        | .032                               | .051                                 | .073                                 | .099                                  | .130                                   | .200                                      | .292                                       | .395                                        |
|                   | Flow Rate, CFM     | 75                                                          | 100                                | 125                                  | 150                                  | 175                                   | 200                                    | 250                                       | 300                                        | 350                                         |
|                   | T                  | 4-Way<br>1-2-5<br>3-Way<br>1-2-6<br>2-Way<br>2-4-7<br>1-Way | 2-3-6<br>2-4-7<br>2-4-8<br>3-5-10  | 3-4-8<br>3-4-9<br>3-5-10<br>4-6-11   | 3-5-9<br>3-5-10<br>4-6-12<br>5-7-12  | 4-6-9<br>4-6-11<br>5-7-13<br>6-9-13   | 4-7-10<br>5-7-12<br>5-8-14<br>7-10-14  | 6-8-11<br>6-9-13<br>7-10-16<br>8-11-16    | 7-9-12<br>7-10-15<br>8-12-17<br>10-12-17   | 8-9-13<br>8-11-16<br>9-13-19<br>11-13-19    |
|                   | NC                 | —                                                           | 13                                 | 19                                   | 24                                   | 28                                    | 32                                     | 38                                        | 43                                         | 47                                          |

### Models 4330, 4330A • Flush Face • 24 x 12 (600 x 300) Module Size

| Nominal Neck Size | Neck Velocity, FPM | 300                                                                       | 400                                       | 500                                       | 600                                          | 700                                          | 800                                          | 1000                                         | 1200                                         | 1400                                         |
|-------------------|--------------------|---------------------------------------------------------------------------|-------------------------------------------|-------------------------------------------|----------------------------------------------|----------------------------------------------|----------------------------------------------|----------------------------------------------|----------------------------------------------|----------------------------------------------|
|                   | VP                 | .006                                                                      | .010                                      | .016                                      | .023                                         | .031                                         | .040                                         | .063                                         | .090                                         | .123                                         |
| 5" Dia.           | TP                 | .010                                                                      | .018                                      | .028                                      | .040                                         | .054                                         | .070                                         | .110                                         | .157                                         | .215                                         |
|                   | Flow Rate, CFM     | 40                                                                        | 55                                        | 70                                        | 80                                           | 95                                           | 110                                          | 135                                          | 165                                          | 190                                          |
|                   | T                  | 4-Way<br>1-2-4<br>3-Way<br>1-2-5<br>2-Way<br>2-3-6<br>1-Way               | 2-2-5<br>2-3-6<br>2-3-6<br>2-4-8          | 2-3-6<br>2-3-7<br>2-4-8<br>3-5-9          | 2-4-7<br>2-4-8<br>3-5-10<br>4-6-10           | 3-5-7<br>3-5-9<br>4-6-10<br>5-7-11           | 3-6-8<br>4-6-10<br>4-7-12<br>6-8-13          | 5-6-9<br>5-7-10<br>6-8-13<br>6-9-13          | 6-7-10<br>6-8-12<br>7-10-14<br>8-10-14       | 6-7-10<br>6-9-13<br>7-10-15<br>9-10-15       |
|                   | NC                 | —                                                                         | —                                         | 14                                        | 19                                           | 23                                           | 27                                           | 33                                           | 38                                           | 42                                           |
|                   | TP                 | .013                                                                      | .021                                      | .034                                      | .048                                         | .065                                         | .084                                         | .132                                         | .189                                         | .258                                         |
| 6" Dia.           | Flow Rate, CFM     | 60                                                                        | 80                                        | 100                                       | 120                                          | 140                                          | 160                                          | 195                                          | 235                                          | 275                                          |
|                   | T                  | 4-Way<br>1-2-4<br>3-Way<br>1-2-5<br>2-Way<br>2-3-6<br>1-Way               | 2-3-5<br>2-3-6<br>2-3-7<br>3-4-9          | 3-3-7<br>3-3-8<br>3-4-9<br>3-5-11         | 3-4-8<br>3-4-9<br>3-5-10<br>4-6-11           | 3-5-8<br>3-5-10<br>4-6-11<br>5-8-12          | 3-6-9<br>4-6-10<br>4-7-12<br>6-9-13          | 5-7-10<br>5-8-11<br>6-9-14<br>7-10-15        | 6-8-10<br>6-9-13<br>7-10-15<br>9-10-16       | 7-8-11<br>7-10-14<br>8-11-17<br>10-12-17     |
|                   | NC                 | —                                                                         | —                                         | 17                                        | 22                                           | 26                                           | 30                                           | 36                                           | 41                                           | 45                                           |
|                   | TP                 | .015                                                                      | .025                                      | .039                                      | .057                                         | .076                                         | .098                                         | .155                                         | .221                                         | .302                                         |
|                   | Flow Rate, CFM     | 80                                                                        | 105                                       | 135                                       | 160                                          | 190                                          | 215                                          | 270                                          | 320                                          | 375                                          |
| 7" Dia.           | T                  | 4-Way<br>1-2-5<br>3-Way<br>1-2-6<br>2-Way<br>2-4-8<br>1-Way               | 2-3-6<br>2-4-7<br>2-4-9<br>3-5-11         | 3-4-9<br>3-4-10<br>3-5-11<br>4-6-12       | 3-5-10<br>3-5-11<br>4-6-12<br>5-8-13         | 4-6-10<br>4-6-12<br>5-8-14<br>6-10-14        | 4-8-11<br>5-8-13<br>5-9-15<br>8-11-15        | 6-9-12<br>6-10-14<br>7-11-17<br>9-12-17      | 8-10-13<br>7-11-16<br>9-13-18<br>11-13-18    | 9-10-14<br>9-12-17<br>10-14-20<br>12-14-20   |
|                   | NC                 | —                                                                         | 14                                        | 20                                        | 25                                           | 29                                           | 33                                           | 39                                           | 44                                           | 48                                           |
|                   | TP                 | .014                                                                      | .026                                      | .040                                      | .058                                         | .079                                         | .103                                         | .160                                         | .231                                         | .314                                         |
|                   | Flow Rate, CFM     | 105                                                                       | 140                                       | 175                                       | 210                                          | 245                                          | 280                                          | 350                                          | 420                                          | 490                                          |
|                   | T                  | 4-Way<br>1-3-6<br>3-Way<br>1-3-7<br>2-Way<br>3-4-9<br>1-Way               | 2-4-8<br>2-4-8<br>2-5-10<br>4-6-12        | 4-4-10<br>4-5-11<br>4-6-12<br>5-7-13      | 4-6-11<br>4-6-13<br>4-7-14<br>6-9-14         | 4-7-12<br>5-7-13<br>5-8-15<br>7-10-15        | 5-8-12<br>5-9-14<br>6-10-17<br>8-12-17       | 6-10-13<br>7-11-16<br>8-12-19<br>10-13-19    | 8-11-14<br>9-13-18<br>10-14-21<br>13-14-21   | 9-12-16<br>10-13-19<br>12-16-22<br>13-16-22  |
|                   | NC                 | —                                                                         | 16                                        | 22                                        | 27                                           | 31                                           | 35                                           | 41                                           | 46                                           | 50                                           |
| 6 x 6             | TP                 | .017                                                                      | .030                                      | .048                                      | .069                                         | .094                                         | .122                                         | .189                                         | .274                                         | .374                                         |
|                   | Flow Rate, CFM     | 75                                                                        | 100                                       | 125                                       | 150                                          | 175                                          | 200                                          | 250                                          | 300                                          | 350                                          |
|                   | T                  | 4-Way<br>1-2-5<br>3-Way<br>1-2-6<br>2-Way<br>2-4-7<br>1-Way               | 2-3-6<br>2-4-7<br>2-4-8<br>3-5-10         | 3-4-8<br>3-4-9<br>3-5-10<br>4-6-11        | 3-5-9<br>3-5-10<br>4-6-12<br>5-7-12          | 4-6-9<br>4-6-11<br>5-7-13<br>6-9-13          | 4-7-10<br>5-7-12<br>5-8-14<br>7-10-14        | 6-8-11<br>6-9-13<br>7-10-16<br>8-11-16       | 7-9-12<br>7-10-15<br>8-12-17<br>10-12-17     | 8-9-13<br>8-11-16<br>9-13-19<br>11-13-19     |
|                   | NC                 | —                                                                         | 13                                        | 19                                        | 24                                           | 28                                           | 32                                           | 38                                           | 43                                           | 47                                           |
|                   | TP                 | .041                                                                      | .068                                      | .109                                      | .157                                         | .211                                         | .273                                         | .430                                         | .613                                         | .840                                         |
| 18 x 6            | Flow Rate, CFM     | 225                                                                       | 300                                       | 375                                       | 450                                          | 525                                          | 600                                          | 750                                          | 900                                          | 1050                                         |
|                   | T                  | 4-Way<br>5-7-15<br>3-Way<br>5-7-15<br>2-Way<br>5-8-15<br>1-Way<br>8-12-21 | 6-10-17<br>7-10-17<br>7-11-17<br>10-15-24 | 8-12-19<br>8-13-19<br>9-13-19<br>13-19-27 | 10-15-21<br>10-15-21<br>11-15-21<br>15-21-30 | 11-16-22<br>12-16-22<br>13-16-22<br>18-23-32 | 13-17-24<br>13-17-24<br>14-17-24<br>20-24-34 | 16-19-27<br>16-19-27<br>16-19-27<br>22-28-39 | 17-21-30<br>17-21-30<br>17-21-30<br>24-30-42 | 19-23-32<br>19-23-32<br>19-23-32<br>27-32-46 |
|                   | NC                 | 17                                                                        | 25                                        | 31                                        | 36                                           | 40                                           | 44                                           | 50                                           | 55                                           | 59                                           |

For performance notes, see page D184.

## Performance Data

### Models 4330, 4330A • Flush Face • 16 x 16 (400 x 400) Module Size

| Nominal Neck Size | Neck Velocity, FPM | 300   | 400    | 500    | 600    | 700     | 800     | 1000     | 1200     | 1400     |
|-------------------|--------------------|-------|--------|--------|--------|---------|---------|----------|----------|----------|
|                   | VP                 | .006  | .010   | .016   | .023   | .031    | .040    | .063     | .090     | .123     |
| 5" Dia.           | TP                 | .010  | .018   | .028   | .040   | .054    | .070    | .110     | .157     | .215     |
|                   | Flow Rate, CFM     | 40    | 55     | 70     | 80     | 95      | 110     | 135      | 165      | 190      |
|                   | T                  | 4-Way | 1-2-4  | 2-2-5  | 2-3-6  | 2-4-7   | 3-5-7   | 3-6-8    | 5-6-9    | 6-7-10   |
|                   |                    | 3-Way | 1-2-4  | 2-3-6  | 2-3-7  | 2-4-8   | 3-5-9   | 4-6-10   | 5-7-10   | 6-8-12   |
|                   |                    | 2-Way | 1-2-5  | 2-3-6  | 2-4-8  | 3-5-10  | 4-6-10  | 4-7-12   | 6-8-13   | 7-10-14  |
|                   |                    | 1-Way | 2-3-6  | 2-4-8  | 3-5-9  | 4-6-10  | 5-7-11  | 6-8-13   | 6-9-13   | 8-10-14  |
|                   | NC                 | —     | —      | 14     | 19     | 23      | 27      | 33       | 38       | 42       |
| 6" Dia.           | TP                 | .013  | .021   | .034   | .048   | .065    | .084    | .132     | .189     | .258     |
|                   | Flow Rate, CFM     | 60    | 80     | 100    | 120    | 140     | 160     | 200      | 235      | 275      |
|                   | T                  | 4-Way | 1-2-4  | 2-3-5  | 3-3-7  | 3-4-8   | 3-5-8   | 3-6-9    | 5-7-10   | 6-8-10   |
|                   |                    | 3-Way | 1-2-4  | 2-3-6  | 3-3-8  | 3-4-9   | 3-5-10  | 4-6-10   | 5-8-11   | 6-9-13   |
|                   |                    | 2-Way | 1-2-5  | 2-3-7  | 3-4-9  | 3-5-10  | 4-6-11  | 4-7-12   | 6-9-14   | 7-10-15  |
|                   |                    | 1-Way | 2-3-6  | 3-4-9  | 3-5-11 | 4-6-11  | 5-8-12  | 6-9-13   | 7-10-15  | 9-10-16  |
|                   | NC                 | —     | —      | 17     | 22     | 26      | 30      | 36       | 41       | 45       |
| 7" Dia.           | TP                 | .015  | .025   | .039   | .057   | .076    | .098    | .155     | .221     | .302     |
|                   | Flow Rate, CFM     | 80    | 105    | 135    | 160    | 190     | 215     | 270      | 320      | 375      |
|                   | T                  | 4-Way | 1-2-5  | 2-3-6  | 3-4-9  | 3-5-10  | 4-6-10  | 4-8-11   | 6-9-12   | 8-10-13  |
|                   |                    | 3-Way | 1-2-5  | 2-4-7  | 3-4-10 | 3-5-11  | 4-6-12  | 5-8-13   | 6-10-14  | 7-11-16  |
|                   |                    | 2-Way | 1-2-6  | 2-4-9  | 3-5-11 | 4-6-12  | 5-8-14  | 5-9-15   | 7-11-17  | 9-13-18  |
|                   |                    | 1-Way | 2-4-8  | 3-5-11 | 4-6-12 | 5-8-13  | 6-10-14 | 8-11-15  | 9-12-17  | 11-13-18 |
|                   | NC                 | —     | 14     | 20     | 25     | 29      | 33      | 39       | 44       | 48       |
| 8" Dia.           | TP                 | .017  | .028   | .045   | .065   | .088    | .113    | .179     | .255     | .350     |
|                   | Flow Rate, CFM     | 105   | 140    | 175    | 210    | 245     | 280     | 350      | 420      | 490      |
|                   | T                  | 4-Way | 1-3-6  | 2-4-8  | 4-4-10 | 4-6-11  | 4-7-12  | 5-8-12   | 6-10-13  | 8-11-14  |
|                   |                    | 3-Way | 1-3-6  | 2-4-8  | 4-5-11 | 4-6-13  | 5-7-13  | 5-9-14   | 7-11-16  | 9-13-18  |
|                   |                    | 2-Way | 1-3-7  | 2-5-10 | 4-6-12 | 4-7-14  | 5-8-15  | 6-10-17  | 8-12-19  | 10-14-21 |
|                   |                    | 1-Way | 3-4-9  | 4-6-12 | 5-7-13 | 6-9-14  | 7-10-15 | 8-12-17  | 10-13-19 | 13-14-21 |
|                   | NC                 | —     | 16     | 22     | 27     | 31      | 35      | 41       | 46       | 50       |
| 10" Dia.          | TP                 | .023  | .039   | .062   | .089   | .120    | .154    | .243     | .348     | .475     |
|                   | Flow Rate, CFM     | 165   | 220    | 270    | 325    | 380     | 435     | 545      | 655      | 760      |
|                   | T                  | 4-Way | 1-3-8  | 2-6-10 | 4-6-12 | 4-8-13  | 6-9-14  | 7-10-14  | 8-12-17  | 10-13-18 |
|                   |                    | 3-Way | 1-3-8  | 2-6-10 | 4-7-13 | 6-8-15  | 7-9-17  | 7-11-18  | 9-13-20  | 11-15-22 |
|                   |                    | 2-Way | 1-3-9  | 2-7-12 | 4-8-14 | 6-9-18  | 7-10-19 | 8-12-21  | 10-14-23 | 12-18-25 |
|                   |                    | 1-Way | 3-6-11 | 4-8-14 | 7-9-17 | 8-11-18 | 9-12-19 | 10-14-21 | 12-17-23 | 15-18-25 |
|                   | NC                 | 11    | 19     | 25     | 30     | 34      | 38      | 44       | 49       | 53       |
| 6 x 6             | TP                 | .015  | .025   | .039   | .057   | .076    | .098    | .155     | .221     | .302     |
|                   | Flow Rate, CFM     | 75    | 100    | 125    | 150    | 175     | 200     | 250      | 300      | 350      |
|                   | T                  | 4-Way | 1-2-5  | 2-3-6  | 3-4-9  | 3-5-10  | 4-6-10  | 4-8-11   | 6-9-12   | 8-10-13  |
|                   |                    | 3-Way | 1-2-5  | 2-4-7  | 3-4-10 | 3-5-11  | 4-6-12  | 5-8-13   | 6-10-14  | 7-11-16  |
|                   |                    | 2-Way | 1-2-6  | 2-4-9  | 3-5-11 | 4-6-12  | 5-8-14  | 5-9-15   | 7-11-17  | 9-13-18  |
|                   |                    | 1-Way | 2-4-8  | 3-5-11 | 4-6-12 | 5-8-13  | 6-10-14 | 8-11-15  | 9-12-17  | 11-13-18 |
|                   | NC                 | —     | 14     | 20     | 25     | 29      | 33      | 39       | 44       | 48       |
| 8 x 8             | TP                 | .020  | .034   | .054   | .078   | .105    | .135    | .213     | .304     | .415     |
|                   | Flow Rate, CFM     | 135   | 180    | 220    | 265    | 310     | 355     | 445      | 535      | 625      |
|                   | T                  | 4-Way | 1-3-7  | 2-5-9  | 4-5-11 | 4-7-12  | 5-8-13  | 6-9-13   | 7-11-15  | 9-12-16  |
|                   |                    | 3-Way | 1-3-7  | 2-5-9  | 4-6-12 | 5-7-14  | 6-8-15  | 6-10-16  | 8-12-18  | 10-14-20 |
|                   |                    | 2-Way | 1-3-8  | 2-6-11 | 4-7-13 | 5-8-16  | 6-9-17  | 7-11-19  | 9-13-21  | 11-16-23 |
|                   |                    | 1-Way | 3-5-10 | 4-7-13 | 6-8-15 | 7-10-16 | 8-11-17 | 9-13-19  | 11-15-21 | 14-16-23 |
|                   | NC                 | 9     | 17     | 23     | 28     | 32      | 36      | 42       | 47       | 51       |

For performance notes, see page D184.

D

CEILING DIFFUSERS

## Performance Data

### Models 4330, 4330A • Flush Face • 20 x 20 (500 x 500) Module Size

| Nominal Neck Size | Neck Velocity, FPM | 300   | 400    | 500     | 600     | 700      | 800      | 1000     | 1200     | 1400     |
|-------------------|--------------------|-------|--------|---------|---------|----------|----------|----------|----------|----------|
|                   | VP                 | .006  | .010   | .016    | .023    | .031     | .040     | .063     | .090     | .123     |
| 5" Dia.           | TP                 | .010  | .018   | .028    | .040    | .054     | .070     | .110     | .157     | .215     |
|                   | Flow Rate, CFM     | 40    | 55     | 70      | 80      | 95       | 110      | 135      | 165      | 190      |
|                   | T                  | 4-Way | 1-2-4  | 2-2-5   | 2-3-6   | 2-4-7    | 3-5-7    | 3-6-8    | 5-6-9    | 6-7-10   |
|                   |                    | 3-Way | 1-2-4  | 2-3-6   | 2-3-7   | 2-4-8    | 3-5-9    | 4-6-10   | 5-7-10   | 6-8-12   |
|                   |                    | 2-Way | 1-2-5  | 2-3-6   | 2-4-8   | 3-5-10   | 4-6-10   | 4-7-12   | 6-8-13   | 7-10-14  |
|                   |                    | 1-Way | 2-3-6  | 2-4-8   | 3-5-9   | 4-6-10   | 5-7-11   | 6-8-13   | 6-9-13   | 8-10-14  |
| 6" Dia.           | NC                 | —     | —      | 14      | 19      | 23       | 27       | 33       | 38       | 42       |
|                   | TP                 | .013  | .021   | .034    | .048    | .065     | .084     | .132     | .189     | .258     |
|                   | Flow Rate, CFM     | 60    | 80     | 100     | 120     | 140      | 160      | 200      | 235      | 275      |
|                   | T                  | 4-Way | 1-2-4  | 2-3-5   | 3-3-7   | 3-4-8    | 3-5-8    | 3-6-9    | 5-7-10   | 6-8-11   |
|                   |                    | 3-Way | 1-2-4  | 2-3-6   | 3-3-8   | 3-4-9    | 3-5-10   | 4-6-10   | 5-8-11   | 6-9-13   |
|                   |                    | 2-Way | 1-2-5  | 2-3-7   | 3-4-9   | 3-5-10   | 4-6-11   | 4-7-12   | 6-9-14   | 7-10-15  |
|                   |                    | 1-Way | 2-3-6  | 3-4-9   | 3-5-11  | 4-6-11   | 5-8-12   | 6-9-13   | 7-10-15  | 9-10-16  |
| 7" Dia.           | NC                 | —     | —      | 17      | 22      | 26       | 30       | 36       | 41       | 45       |
|                   | TP                 | .014  | .023   | .037    | .053    | .071     | .092     | .145     | .207     | .283     |
|                   | Flow Rate, CFM     | 80    | 105    | 135     | 160     | 190      | 215      | 270      | 320      | 375      |
|                   | T                  | 4-Way | 1-2-5  | 2-3-6   | 3-4-9   | 3-5-10   | 4-6-10   | 4-8-11   | 6-9-12   | 8-10-13  |
|                   |                    | 3-Way | 1-2-5  | 2-4-7   | 3-4-10  | 3-5-11   | 4-6-12   | 5-8-13   | 6-10-14  | 7-11-16  |
|                   |                    | 2-Way | 1-2-6  | 2-4-9   | 3-5-11  | 4-6-12   | 5-8-14   | 5-9-15   | 7-11-17  | 9-13-18  |
|                   |                    | 1-Way | 2-4-8  | 3-5-11  | 4-6-12  | 5-8-13   | 6-10-14  | 8-11-15  | 9-12-17  | 11-13-18 |
| 8" Dia.           | NC                 | —     | 13     | 19      | 24      | 28       | 32       | 38       | 43       | 47       |
|                   | TP                 | .014  | .024   | .038    | .055    | .075     | .096     | .151     | .216     | .295     |
|                   | Flow Rate, CFM     | 105   | 140    | 175     | 210     | 245      | 280      | 350      | 420      | 490      |
|                   | T                  | 4-Way | 1-3-6  | 2-4-8   | 4-4-10  | 4-6-11   | 4-7-12   | 5-8-12   | 6-10-13  | 8-11-14  |
|                   |                    | 3-Way | 1-3-6  | 2-4-8   | 4-5-11  | 4-6-13   | 5-7-13   | 5-9-14   | 7-11-16  | 9-13-18  |
|                   |                    | 2-Way | 1-3-7  | 2-5-10  | 4-6-12  | 4-7-14   | 5-8-15   | 6-10-17  | 8-12-19  | 10-14-21 |
|                   |                    | 1-Way | 3-4-9  | 4-6-12  | 5-7-13  | 6-9-14   | 7-10-15  | 8-12-17  | 10-13-19 | 13-14-21 |
| 10" Dia.          | NC                 | —     | 16     | 22      | 27      | 31       | 35       | 41       | 46       | 50       |
|                   | TP                 | .019  | .031   | .050    | .071    | .096     | .124     | .195     | .279     | .381     |
|                   | Flow Rate, CFM     | 165   | 220    | 270     | 325     | 380      | 435      | 545      | 655      | 760      |
|                   | T                  | 4-Way | 1-3-8  | 2-6-10  | 4-6-12  | 4-8-13   | 6-9-14   | 7-10-14  | 8-12-17  | 10-13-18 |
|                   |                    | 3-Way | 1-3-8  | 2-6-10  | 4-7-13  | 6-8-15   | 7-9-17   | 7-11-18  | 9-13-20  | 11-15-22 |
|                   |                    | 2-Way | 1-3-9  | 2-7-12  | 4-8-14  | 6-9-18   | 7-10-19  | 8-12-21  | 10-14-23 | 12-18-25 |
|                   |                    | 1-Way | 3-6-11 | 4-8-14  | 7-9-17  | 8-11-18  | 9-12-19  | 10-14-21 | 12-17-23 | 15-18-25 |
| 12" Dia.          | NC                 | 11    | 19     | 25      | 30      | 34       | 38       | 44       | 49       | 53       |
|                   | TP                 | .023  | .038   | .060    | .087    | .117     | .150     | .237     | .338     | .462     |
|                   | Flow Rate, CFM     | 235   | 315    | 390     | 470     | 550      | 630      | 785      | 945      | 1100     |
|                   | T                  | 4-Way | 2-4-8  | 3-5-12  | 5-7-14  | 5-8-16   | 6-9-17   | 7-12-18  | 9-14-20  | 12-16-21 |
|                   |                    | 3-Way | 2-4-10 | 3-6-13  | 5-7-16  | 6-9-18   | 7-11-20  | 8-13-21  | 11-16-23 | 13-18-27 |
|                   |                    | 2-Way | 2-4-11 | 3-7-15  | 5-8-18  | 7-11-20  | 8-13-23  | 9-15-25  | 12-18-28 | 15-21-31 |
|                   |                    | 1-Way | 3-6-14 | 5-8-18  | 7-11-20 | 8-13-21  | 11-16-23 | 12-18-25 | 15-20-28 | 18-21-31 |
| 14" Dia.          | NC                 | 14    | 22     | 28      | 33      | 37       | 41       | 47       | 52       | 56       |
|                   | TP                 | .029  | .049   | .079    | .113    | .152     | .196     | .309     | .440     | .603     |
|                   | Flow Rate, CFM     | 320   | 425    | 530     | 635     | 740      | 850      | 1060     | 1270     | 1480     |
|                   | T                  | 4-Way | 2-5-10 | 4-6-13  | 6-8-16  | 6-10-18  | 7-11-19  | 8-13-20  | 11-16-23 | 13-18-24 |
|                   |                    | 3-Way | 2-3-11 | 4-7-14  | 6-8-18  | 7-11-20  | 8-12-23  | 10-14-24 | 12-18-26 | 14-20-30 |
|                   |                    | 2-Way | 3-5-12 | 4-8-17  | 6-10-20 | 8-12-23  | 10-14-26 | 11-17-29 | 13-20-31 | 17-24-35 |
|                   |                    | 1-Way | 4-7-16 | 6-10-20 | 8-12-23 | 10-14-24 | 12-18-26 | 13-20-29 | 17-23-31 | 20-24-35 |
| 6 x 6             | NC                 | 19    | 27     | 33      | 38      | 42       | 46       | 52       | 57       | 61       |
|                   | TP                 | .014  | .023   | .037    | .053    | .071     | .092     | .145     | .207     | .283     |
|                   | Flow Rate, CFM     | 75    | 100    | 125     | 150     | 175      | 200      | 250      | 300      | 350      |
|                   | T                  | 4-Way | 1-2-5  | 2-3-6   | 3-4-9   | 3-5-10   | 4-6-10   | 4-8-11   | 6-9-12   | 8-10-13  |
|                   |                    | 3-Way | 1-2-5  | 2-4-7   | 3-4-10  | 3-5-11   | 4-6-12   | 5-8-13   | 6-10-14  | 7-11-16  |
|                   |                    | 2-Way | 1-2-6  | 2-4-9   | 3-5-11  | 4-6-12   | 5-8-14   | 5-9-15   | 7-11-17  | 9-13-18  |
|                   |                    | 1-Way | 2-4-8  | 3-5-11  | 4-6-12  | 5-8-13   | 6-10-14  | 8-11-15  | 9-12-17  | 11-13-18 |
| 8 x 8             | NC                 | —     | 13     | 19      | 24      | 28       | 32       | 38       | 43       | 47       |
|                   | TP                 | .019  | .031   | .050    | .071    | .096     | .124     | .195     | .279     | .381     |
|                   | Flow Rate, CFM     | 135   | 180    | 220     | 265     | 310      | 355      | 445      | 535      | 625      |
|                   | T                  | 4-Way | 1-3-8  | 2-6-10  | 4-6-12  | 4-8-13   | 6-9-14   | 7-10-14  | 8-12-17  | 10-13-18 |
|                   |                    | 3-Way | 1-3-8  | 2-6-10  | 4-7-13  | 6-8-15   | 7-9-17   | 7-11-18  | 9-13-20  | 11-15-22 |
|                   |                    | 2-Way | 1-3-9  | 2-7-12  | 4-8-14  | 6-9-18   | 7-10-19  | 8-12-21  | 10-14-23 | 12-18-25 |
|                   |                    | 1-Way | 3-6-11 | 4-8-14  | 7-9-17  | 8-11-18  | 9-12-19  | 10-14-21 | 12-17-23 | 15-18-25 |
| 10 x 10           | NC                 | 11    | 19     | 25      | 30      | 34       | 38       | 44       | 49       | 53       |
|                   | TP                 | .021  | .035   | .057    | .082    | .110     | .142     | .223     | .318     | .435     |
|                   | Flow Rate, CFM     | 210   | 280    | 350     | 415     | 485      | 555      | 695      | 835      | 975      |
|                   | T                  | 4-Way | 2-4-8  | 3-5-11  | 5-7-13  | 5-8-15   | 6-9-16   | 7-11-17  | 9-13-19  | 11-15-20 |
|                   |                    | 3-Way | 2-4-9  | 3-6-12  | 5-7-15  | 6-9-17   | 7-10-19  | 8-12-20  | 10-15-22 | 12-17-22 |
|                   |                    | 2-Way | 2-4-10 | 3-7-14  | 5-8-17  | 7-10-19  | 8-12-22  | 9-14-24  | 11-17-26 | 14-20-29 |
|                   |                    | 1-Way | 3-6-13 | 5-8-17  | 7-10-19 | 8-12-20  | 10-15-22 | 11-17-24 | 14-19-26 | 17-20-29 |
| 10 x 10           | NC                 | 13    | 21     | 27      | 32      | 36       | 40       | 46       | 51       | 55       |

For performance notes, see page D184.

## Performance Data

### Models 4330, 4330A • Flush Face • 24 x 24 (600 x 600) Module Size • Round Neck

| Nominal Neck Size | Neck Velocity, FPM | 300    | 400     | 500     | 600      | 700      | 800      | 1000     | 1200     | 1400     |
|-------------------|--------------------|--------|---------|---------|----------|----------|----------|----------|----------|----------|
|                   | VP                 | .006   | .010    | .016    | .023     | .031     | .040     | .063     | .090     | .123     |
| 6" Dia.           | TP                 | .013   | .021    | .034    | .048     | .065     | .084     | .132     | .189     | .258     |
|                   | Flow Rate, CFM     | 60     | 80      | 100     | 120      | 140      | 160      | 195      | 235      | 275      |
|                   | 4-Way              | 1-2-4  | 2-3-5   | 3-3-7   | 3-4-8    | 3-5-8    | 3-6-9    | 5-7-10   | 6-8-10   | 7-8-11   |
|                   | 3-Way              | 1-2-4  | 2-3-6   | 3-3-8   | 3-4-9    | 3-5-10   | 4-6-10   | 5-8-11   | 6-9-13   | 7-10-14  |
|                   | 2-Way              | 1-2-5  | 2-3-7   | 3-4-9   | 3-5-10   | 4-6-11   | 4-7-12   | 6-9-14   | 7-10-15  | 8-11-17  |
|                   | 1-Way              | 2-3-6  | 3-4-9   | 3-5-11  | 4-6-11   | 5-8-12   | 6-9-13   | 7-10-15  | 9-10-16  | 10-12-17 |
|                   | NC                 | —      | —       | 17      | 22       | 26       | 30       | 36       | 41       | 45       |
| 8" Dia.           | TP                 | .014   | .024    | .038    | .055     | .075     | .096     | .151     | .216     | .295     |
|                   | Flow Rate, CFM     | 105    | 140     | 175     | 210      | 245      | 280      | 350      | 420      | 490      |
|                   | 4-Way              | 1-3-6  | 2-4-8   | 4-4-10  | 4-6-11   | 4-7-12   | 5-8-12   | 6-10-13  | 8-11-14  | 9-12-16  |
|                   | 3-Way              | 1-3-6  | 2-4-8   | 4-5-11  | 4-6-13   | 5-7-13   | 5-9-14   | 7-11-16  | 9-13-18  | 10-13-19 |
|                   | 2-Way              | 1-3-7  | 2-5-10  | 4-6-12  | 4-7-14   | 5-8-15   | 6-10-17  | 8-12-19  | 10-14-21 | 12-16-22 |
|                   | 1-Way              | 3-4-9  | 4-6-12  | 5-7-13  | 6-9-14   | 7-10-15  | 8-12-17  | 10-13-19 | 13-14-21 | 13-16-22 |
|                   | NC                 | —      | 16      | 22      | 27       | 31       | 35       | 41       | 46       | 50       |
| 10" Dia.          | TP                 | .016   | .027    | .043    | .062     | .084     | .109     | .171     | .244     | .333     |
|                   | Flow Rate, CFM     | 165    | 220     | 270     | 325      | 380      | 435      | 545      | 655      | 760      |
|                   | 4-Way              | 1-3-8  | 2-6-10  | 4-6-12  | 4-8-13   | 6-9-14   | 7-10-14  | 8-12-17  | 10-13-18 | 11-14-20 |
|                   | 3-Way              | 1-3-8  | 2-6-10  | 4-7-13  | 6-8-15   | 7-9-17   | 7-11-18  | 9-13-20  | 11-15-22 | 12-17-23 |
|                   | 2-Way              | 1-3-9  | 2-7-12  | 4-8-14  | 6-9-18   | 7-10-19  | 8-12-21  | 10-14-23 | 12-18-25 | 14-20-28 |
|                   | 1-Way              | 3-6-11 | 4-8-14  | 7-9-17  | 8-11-18  | 9-12-19  | 10-14-21 | 12-17-23 | 15-18-25 | 15-20-28 |
|                   | NC                 | 11     | 19      | 25      | 30       | 34       | 38       | 44       | 49       | 53       |
| 12" Dia.          | TP                 | .020   | .033    | .053    | .076     | .103     | .132     | .208     | .298     | .407     |
|                   | Flow Rate, CFM     | 235    | 315     | 390     | 470      | 550      | 630      | 785      | 945      | 1100     |
|                   | 4-Way              | 2-4-8  | 3-5-12  | 5-7-14  | 5-8-16   | 6-9-17   | 7-12-18  | 9-14-20  | 12-16-21 | 14-17-23 |
|                   | 3-Way              | 2-4-10 | 3-6-13  | 5-7-16  | 6-9-18   | 7-11-20  | 8-13-21  | 11-16-23 | 13-18-27 | 15-20-28 |
|                   | 2-Way              | 2-4-11 | 3-7-15  | 5-8-18  | 7-11-20  | 8-13-23  | 9-15-25  | 12-18-28 | 15-21-31 | 17-23-33 |
|                   | 1-Way              | 3-6-14 | 5-8-18  | 7-11-20 | 8-13-21  | 11-16-23 | 12-18-25 | 15-20-28 | 18-21-31 | 19-23-33 |
|                   | NC                 | 14     | 22      | 28      | 33       | 37       | 41       | 47       | 52       | 56       |
| 14" Dia.          | TP                 | .023   | .038    | .061    | .088     | .119     | .153     | .241     | .345     | .470     |
|                   | Flow Rate, CFM     | 320    | 425     | 530     | 635      | 740      | 850      | 1060     | 1270     | 1480     |
|                   | 4-Way              | 2-5-10 | 4-6-13  | 6-8-16  | 6-10-18  | 7-11-19  | 8-13-20  | 11-16-23 | 13-18-24 | 16-19-26 |
|                   | 3-Way              | 2-5-11 | 4-7-14  | 6-8-18  | 7-11-20  | 8-12-23  | 10-14-24 | 12-18-26 | 14-20-30 | 17-23-31 |
|                   | 2-Way              | 3-5-12 | 4-8-17  | 6-10-20 | 8-12-23  | 10-14-26 | 11-17-29 | 13-20-31 | 17-24-35 | 19-26-37 |
|                   | 1-Way              | 4-8-16 | 6-10-20 | 8-12-23 | 10-14-24 | 12-18-26 | 13-20-29 | 17-23-31 | 20-24-35 | 22-26-37 |
|                   | NC                 | 16     | 24      | 30      | 35       | 39       | 43       | 49       | 54       | 58       |
| 16" Dia.          | TP                 | .029   | .048    | .076    | .110     | .148     | .191     | .300     | .430     | .587     |
|                   | Flow Rate, CFM     | 420    | 560     | 700     | 840      | 980      | 1120     | 1400     | 1680     | 1960     |
|                   | 4-Way              | 2-5-12 | 5-8-15  | 6-9-19  | 8-12-20  | 9-13-21  | 11-15-24 | 13-19-26 | 15-20-28 | 18-22-31 |
|                   | 3-Way              | 3-5-12 | 5-8-17  | 6-11-20 | 8-12-25  | 9-14-26  | 11-17-28 | 14-20-32 | 17-25-34 | 19-26-38 |
|                   | 2-Way              | 4-5-14 | 5-9-19  | 6-12-24 | 9-14-28  | 11-17-31 | 13-19-33 | 15-24-37 | 19-28-40 | 21-31-44 |
|                   | 1-Way              | 5-8-18 | 8-12-24 | 9-14-26 | 12-18-28 | 13-20-31 | 15-24-33 | 19-26-37 | 24-28-40 | 25-31-44 |
|                   | NC                 | 19     | 27      | 33      | 38       | 42       | 46       | 52       | 57       | 61       |

For performance notes, see page D184.

D

CEILING DIFFUSERS

## Performance Data

### Models 4330, 4330A • Flush Face • 24 x 24 (600 x 600) Module Size • Square Neck

| Nominal Neck Size | Neck Velocity, FPM | 300   | 400    | 500     | 600     | 700      | 800      | 1000     | 1200     | 1400     |
|-------------------|--------------------|-------|--------|---------|---------|----------|----------|----------|----------|----------|
|                   | VP                 | .006  | .010   | .016    | .023    | .031     | .040     | .063     | .090     | .123     |
| 6 x 6             | TP                 | .014  | .023   | .037    | .053    | .071     | .092     | .145     | .207     | .283     |
|                   | Flow Rate, CFM     | 75    | 100    | 125     | 150     | 175      | 200      | 250      | 300      | 350      |
|                   | T                  | 4-Way | 1-2-5  | 2-3-6   | 3-4-9   | 3-5-10   | 4-6-10   | 4-8-11   | 6-9-12   | 8-10-13  |
|                   |                    | 3-Way | 1-2-5  | 2-4-7   | 3-4-10  | 3-5-11   | 4-6-12   | 5-8-13   | 6-10-14  | 7-11-16  |
|                   |                    | 2-Way | 1-2-6  | 2-4-9   | 3-5-11  | 4-6-12   | 5-8-14   | 5-9-15   | 7-11-17  | 9-13-18  |
|                   |                    | 1-Way | 2-4-8  | 3-5-11  | 4-6-12  | 5-8-13   | 6-10-14  | 8-11-15  | 9-12-17  | 11-13-18 |
|                   | NC                 | —     | 13     | 19      | 24      | 28       | 32       | 38       | 43       | 47       |
| 8 x 8             | TP                 | .016  | .027   | .043    | .062    | .084     | .109     | .171     | .244     | .333     |
|                   | Flow Rate, CFM     | 135   | 180    | 220     | 265     | 310      | 355      | 445      | 535      | 625      |
|                   | T                  | 4-Way | 1-3-8  | 2-6-10  | 4-6-12  | 4-8-13   | 6-9-14   | 7-10-14  | 8-12-17  | 10-13-18 |
|                   |                    | 3-Way | 1-3-8  | 2-6-10  | 4-7-13  | 6-8-15   | 7-9-17   | 7-11-18  | 9-13-20  | 11-15-22 |
|                   |                    | 2-Way | 1-3-9  | 2-7-12  | 4-8-14  | 6-9-18   | 7-10-19  | 8-12-21  | 10-14-23 | 12-18-25 |
|                   |                    | 1-Way | 3-6-11 | 4-8-14  | 7-9-17  | 8-11-18  | 9-12-19  | 10-14-21 | 12-17-23 | 15-18-25 |
|                   | NC                 | 11    | 19     | 25      | 30      | 34       | 38       | 44       | 49       | 53       |
| 10 x 10           | TP                 | .020  | .033   | .053    | .076    | .103     | .132     | .208     | .298     | .407     |
|                   | Flow Rate, CFM     | 235   | 315    | 390     | 470     | 550      | 630      | 785      | 945      | 1100     |
|                   | T                  | 4-Way | 2-4-8  | 3-5-11  | 5-7-13  | 5-8-15   | 6-9-16   | 7-11-17  | 9-13-19  | 11-15-20 |
|                   |                    | 3-Way | 2-4-9  | 3-6-12  | 5-7-15  | 6-9-17   | 7-10-19  | 8-12-20  | 10-15-22 | 12-17-22 |
|                   |                    | 2-Way | 2-4-10 | 3-7-14  | 5-8-17  | 7-10-19  | 8-12-22  | 9-14-24  | 11-17-26 | 14-20-29 |
|                   |                    | 1-Way | 3-6-13 | 5-8-17  | 7-10-19 | 8-12-20  | 10-15-22 | 11-17-24 | 14-19-26 | 17-20-29 |
|                   | NC                 | 14    | 22     | 28      | 33      | 37       | 41       | 47       | 52       | 56       |
| 12 x 12           | TP                 | .021  | .037   | .058    | .083    | .115     | .148     | .230     | .333     | .450     |
|                   | Flow Rate, CFM     | 300   | 400    | 500     | 600     | 700      | 800      | 1000     | 1200     | 1400     |
|                   | T                  | 4-Way | 2-4-10 | 4-7-13  | 5-8-16  | 7-10-17  | 8-11-18  | 9-13-20  | 11-16-22 | 13-17-24 |
|                   |                    | 3-Way | 2-4-10 | 4-7-14  | 5-9-17  | 7-10-21  | 8-12-22  | 9-14-24  | 12-17-27 | 14-21-29 |
|                   |                    | 2-Way | 2-4-12 | 4-8-16  | 5-10-20 | 8-12-24  | 9-14-26  | 11-16-28 | 13-20-31 | 16-24-34 |
|                   |                    | 1-Way | 4-7-15 | 7-10-20 | 8-12-22 | 10-15-24 | 11-17-26 | 13-20-28 | 16-22-31 | 20-24-34 |
|                   | NC                 | 16    | 24     | 30      | 35      | 39       | 43       | 49       | 54       | 58       |

**CFM** - cubic feet per minute

**FPM** - feet per minute velocity

**TP** - total pressure - inches w.g.

**VP** - velocity pressure - inches w.g.

**T** - throw in feet

**NC** - Noise Criteria (values) based on 10 dB room absorption, re 10<sup>-12</sup> watts.

#### Performance Notes:

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

Listed throws for the 18" x 6" neck/ 24" x 12" module are for the long side of the diffuser. Throws for the narrow side are approximately x 0.6 listed values.

2. Data derived from tests conducted in accordance with ANSI/ASHRAE Standard 70 – 1991.

#### Balancing:

It is recommended that a commercially available 'Flow Hood' is used for field balancing. The airflow meter directly reads average flow rate with great accuracy at all volumes. It is a much faster and more accurate alternative to time consuming multiple velocity readings, eliminating the use of Ak factors and the calculations required to convert the average velocity into airflow.



## PERFORATED CURVED BLADE DIFFUSERS

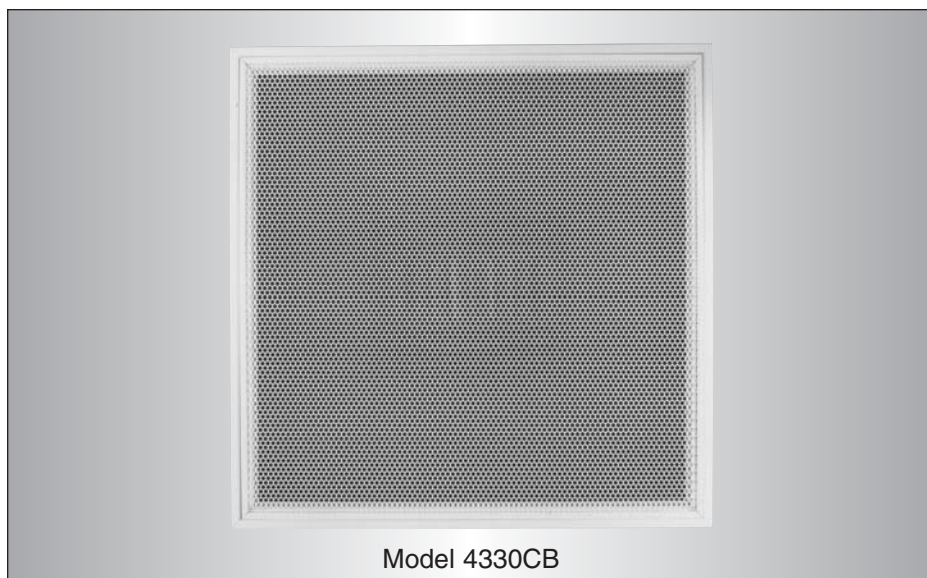
- SUPPLY
- PREMIUM ARCHITECTURAL QUALITY
- 4-WAY ADJUSTABLE DISCHARGE PATTERN (STANDARD)
- 1, 2 OR 3-WAY DISCHARGE PATTERN (OPTIONAL)

### Steel Face Model:

**4330CB Flush Face**

### Aluminum Face Model:

**4330CBA Flush Face**



The **Nailor 4330CB Curved Blade Diffusers** provide the unobtrusive, smooth appearance preferred by many architects with superior features and performance characteristics. Designed to maximize throw, this model features individually adjustable, friction pivoted curved blade deflectors mounted directly under the neck. They project a tight, uniform horizontal blanket of air over a wide range of air volumes and provide excellent performance in variable air volume systems.

The **4330CB Diffuser** features an extruded aluminum frame with hairline mitered corners that encapsulates the perforated face providing a narrow, visible border within the T-Bar module. The deflector blades can be adjusted to control both the angle of discharge and hence throw from full horizontal to vertical in each direction and also damper the air volume. By closing off the deflectors in one or more directions, directional control can also be achieved. The **4330CB** is supplied with a 4-way adjustable discharge pattern as standard but is also available with a factory supplied 1, 2 or 3-way adjustable discharge pattern controller.

### FEATURES:

- Round or square necks available.
- Hinged, removable face plate with quick-release spring latches.
- Discharge pattern can be adjusted from horizontal to vertical before or after installation.
- Discharge pattern is adjusted by dropping the perforated face and moving the curved blade deflectors.
- Inlet collar has 1 1/4" (32) depth for easy duct connection.
- Dropping the perforated face gives access to the optional damper.

- Perforated face with 3/16" (5) diameter holes on staggered 1/4" (6) centers, providing 51% free area.
- Return models (**4330R Series**) are available with the same face and frame construction as the supply models to match their appearance.

**Material:** Extruded aluminum border and frame, corrosion-resistant steel backpan. Corrosion-resistant steel or aluminum perforated face depending on model selection.

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

### Available Combinations of Ceiling Module vs. Neck Size

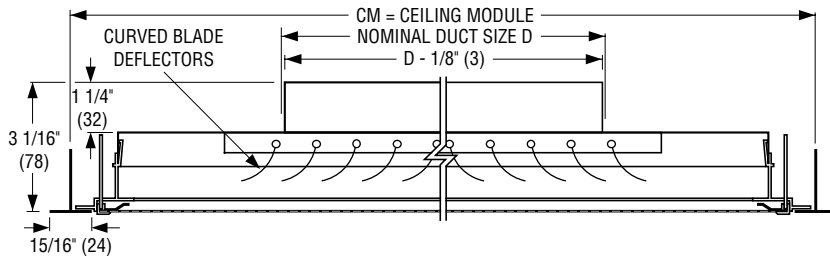
| Ceiling Module CM |                | Nominal Duct Size D          |                                        |                                                                    |                                                                                        |
|-------------------|----------------|------------------------------|----------------------------------------|--------------------------------------------------------------------|----------------------------------------------------------------------------------------|
| Imperial Modules  | Metric Modules | Round Neck                   |                                        | Square Neck                                                        |                                                                                        |
|                   |                | Imperial Units (in.)         | Metric Units (mm)                      | Imperial Units (in.)                                               | Metric Units (mm)                                                                      |
| 12 x 12           | 300 x 300      | 6, 8                         | 152, 203                               | 6 x 6, 8 x 8                                                       | 152 x 152, 203 x 203                                                                   |
| 24 x 12           | 600 x 300      | 6, 8                         | 152, 203                               | 6 x 6, 8 x 8, 18 x 6                                               | 152 x 152, 203 x 203, 457 x 152                                                        |
| 16 x 16           | 400 x 400      | 6, 8, 10                     | 152, 203, 254                          | 6 x 6, 8 x 8                                                       | 152 x 152, 203 x 203                                                                   |
| 20 x 20           | 500 x 500      | 6, 8, 10, 12, 14             | 152, 203, 254, 305, 356                | 6 x 6, 8 x 8, 10 x 10                                              | 152 x 152, 203 x 203, 254 x 254                                                        |
| 24 x 24           | 600 x 600      | 6, 8, 10, 12, 14, 15, 16, 18 | 152, 203, 254, 305, 356, 381, 406, 457 | 6 x 6, 8 x 8, 10 x 10, 12 x 12, 14 x 14, 15 x 15, 16 x 16, 18 x 18 | 152 x 152, 203 x 203, 254 x 254, 305 x 305, 356 x 356, 381 x 381, 406 x 406, 457 x 457 |



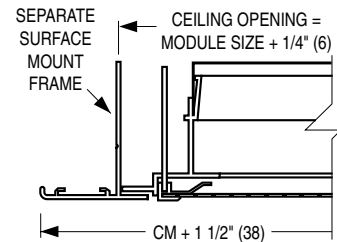
## Dimensional Data and Frame Types

Models 4330CB, 4330CBA • Supply • Flush Face

**Type L Lay-in T-Bar**



**Type S Surface Mount**



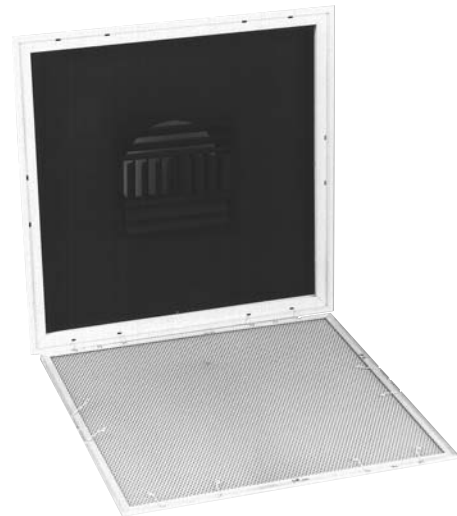
## Model Series 4330CB • Adjusting Pattern Controllers

### Removing Perforated Face

The **4330 Series** is supplied with a removable face plate that is retained in place with quick-release spring latches, located on the edge of the perforated face border.

1. Carefully insert a small screwdriver or similar object through a perforated hole in the edge of the face plate and pull the diffuser face down slightly. Grasp the face plate by hand and pull down to the extent of the spring latches on all sides.
2. The face plate will now hang by the extended spring latches. Compress the spring latches by hand and remove from the backpan.
3. When the latches are removed from three sides, the face will hinge down from the remaining latches for access to the pattern deflectors. The face can be completely removed by depressing the remaining latches.
4. To close; lift perforated face, depress the spring latches and snap in place.

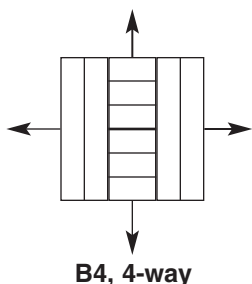
The pattern controller in the neck of the diffuser features individually adjustable deflector blades which may be used to vary the discharge pattern from full horizontal to vertical. Each blade is friction pivoted using a tension wire which securely holds its position after adjustment.



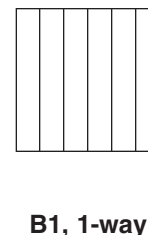
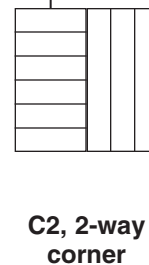
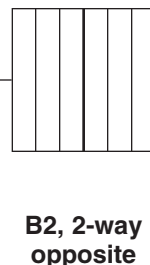
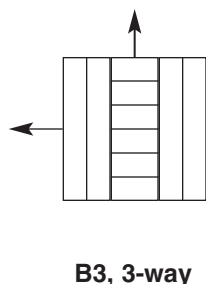
Round or Square Neck • 4-way Pattern

## Pattern Controller Options

**Standard Model Configuration**



**Optional Model Configurations**



The **4330CB Series** is supplied with this style of pattern controller unless specified otherwise.

## HOW TO SPECIFY OR TO ORDER

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

### Premium Perforated Curved Blade Supply Ceiling Diffusers – Model Series 4330CB

**4330CB - 08 - 24 x 24 - L - AW - B4 - -**

#### MODEL

- Steel Face 4330CB
- Aluminum Face 4330CBA

#### NECK SIZE (inches)

##### Round

06, 08, 10, 12, 14, 15, 16, 18

##### Square/Rectangular

6 x 6, 8 x 8, 10 x 10, 12 x 12,  
14 x 14, 15 x 15, 16 x 16,  
18 x 6, 18 x 18

#### CEILING MODULE

##### Imperial (inches) Metric (mm)

- 12 x 12 300 x 300
- 16 x 16 400 x 400
- 20 x 20 500 x 500
- 24 x 12 600 x 300
- 24 x 24 600 x 600
- 48 x 24 1200 x 600

#### FRAME TYPE

- Lay-in T-Bar L
- Surface Mount S

#### ACCESSORIES

- None (default) —
- External Foil Back Insulation EX
- Earthquake Tabs EQT

#### AIR BALANCING DEVICES

##### Round Neck

- Radial Sliding Blade Damper 4250
- Radial Opposed Blade Damper 4275
- Butterfly Damper 4675
- Equalizing Grid EGR
- Damper/Equalizing Grid DEGR

##### Square/Rectangular Neck

- Opposed Blade Damper OBD
- Equalizing Grid (long) EGL
- Equalizing Grid (short) EGS
- Damper/Equalizing Grid (long) DEGL
- Damper/Equalizing Grid (short) DEGS

#### BLOW PATTERN

- 4-Way (default) B4
- 3-Way B3
- 2-Way Opposite B2
- 2-Way Corner C2
- 1-Way B1

#### FINISH

- Appliance White (default) AW
- Special SP
- AW Face/Black Backpan BA

#### Notes:

- Consult individual models as to limitations and availability of ceiling module and neck size combinations.
- If more than one accessory is required, list in order.

**D**

**CEILING DIFFUSERS**

#### SUGGESTED SPECIFICATION:

Furnish and install **Nailor Model** (select one) **4330CB** (corrosion-resistant steel face) or **4330CBA** (aluminum face) **Premium Architectural Perforated Supply Curved Blade Ceiling Diffusers** of the sizes and capacities as shown on the plans and air distribution schedules. The diffuser shall have a corrosion-resistant steel backpan with a round or square neck as specified, and an extruded aluminum border/frame that encapsulates the perforated face. The perforated face shall have 3/16" (5) dia. holes on 1/4" (6) staggered centers, providing 51% free area. Mounted on the neck of the diffuser shall be a factory installed curved blade pack with individually adjustable blades configured for a 4-way (standard) throw. (Optional) Factory installed 3, 2, or 1-way (select one) pattern to be supplied. The face shall include spring latches allowing easy access for cleaning and adjusting the deflectors (or optional damper). The finish shall be AW Appliance White baked enamel (optional finishes are available).

The manufacturer shall provide published performance data for the diffuser, which shall be tested in accordance with ANSI/ASHRAE Standard 70 – 1991.

## Performance Data

### Models 4330CB, 4330CBA • 12 x 12 (300 x 300) Module Size

| Nominal Neck Size | Neck Velocity, FPM | 300    | 400    | 500     | 600     | 700     | 800      | 900      |
|-------------------|--------------------|--------|--------|---------|---------|---------|----------|----------|
|                   | VP                 | .006   | .010   | .016    | .023    | .031    | .040     | .051     |
|                   | TP                 | .030   | .052   | .082    | .118    | .162    | .211     | .267     |
| 6" Dia.           | Flow Rate, CFM     | 60     | 80     | 95      | 115     | 135     | 155      | 175      |
|                   | T 4-Way            | 1-2-4  | 2-3-6  | 2-4-7   | 3-5-7   | 3-5-8   | 4-6-9    | 5-6-9    |
|                   | T 3-Way            | 2-3-6  | 2-4-8  | 3-5-11  | 4-6-12  | 5-7-13  | 5-8-14   | 6-10-15  |
|                   | T 2-Way            | 2-4-8  | 3-5-11 | 4-6-13  | 5-8-15  | 6-9-16  | 7-11-18  | 8-12-20  |
|                   | T 1-Way            | 3-4-9  | 4-6-12 | 5-8-16  | 6-9-18  | 7-11-20 | 8-12-22  | 9-14-23  |
|                   | NC                 | 16     | 22     | 27      | 32      | 37      | 41       | 44       |
| 8" Dia.           | Flow Rate, CFM     | 105    | 140    | 175     | 210     | 245     | 280      | 315      |
|                   | T 4-Way            | 2-3-6  | 2-4-8  | 3-5-9   | 4-6-10  | 4-7-11  | 4-8-12   | 5-9-12   |
|                   | T 3-Way            | 2-3-7  | 3-4-9  | 3-5-11  | 4-7-12  | 5-8-13  | 6-9-14   | 7-10-14  |
|                   | T 2-Way            | 3-4-9  | 4-6-13 | 5-8-15  | 6-9-17  | 7-11-18 | 8-13-20  | 9-14-21  |
|                   | T 1-Way            | 3-5-11 | 5-7-15 | 6-9-18  | 7-11-21 | 8-13-22 | 10-15-24 | 11-17-25 |
|                   | NC                 | 17     | 23     | 29      | 35      | 39      | 43       | 46       |
| 6 x 6             | Flow Rate, CFM     | 75     | 100    | 125     | 150     | 175     | 200      | 225      |
|                   | T 4-Way            | 1-2-5  | 2-3-7  | 3-4-8   | 3-5-8   | 4-6-9   | 5-7-10   | 5-7-11   |
|                   | T 3-Way            | 2-3-6  | 2-4-8  | 3-5-11  | 4-6-12  | 5-7-13  | 5-8-14   | 6-10-15  |
|                   | T 2-Way            | 3-4-9  | 4-6-12 | 5-7-15  | 6-9-17  | 7-10-20 | 8-12-21  | 9-14-22  |
|                   | T 1-Way            | 3-5-10 | 4-7-14 | 6-9-18  | 7-10-21 | 8-12-23 | 9-14-24  | 10-16-26 |
|                   | NC                 | 16     | 22     | 27      | 32      | 36      | 40       | 43       |
| 8 x 8             | Flow Rate, CFM     | 135    | 175    | 220     | 265     | 310     | 355      | 400      |
|                   | T 4-Way            | 2-3-6  | 3-4-9  | 3-5-10  | 4-6-11  | 5-8-12  | 6-9-13   | 6-10-14  |
|                   | T 3-Way            | 2-3-7  | 3-5-10 | 4-6-12  | 5-7-13  | 6-9-14  | 7-10-15  | 7-11-16  |
|                   | T 2-Way            | 3-5-11 | 4-7-14 | 6-9-17  | 7-11-20 | 8-13-21 | 9-14-23  | 11-16-24 |
|                   | T 1-Way            | 4-6-12 | 5-8-17 | 7-10-21 | 8-12-23 | 9-14-25 | 11-17-27 | 12-20-28 |
|                   | NC                 | 17     | 23     | 30      | 36      | 40      | 44       | 47       |

### Models 4330CB, 4330CBA • 24 x 12 (600 x 300) Module Size

| Nominal Neck Size | Neck Velocity, FPM | 300    | 400    | 500     | 600     | 700     | 800      | 900      |
|-------------------|--------------------|--------|--------|---------|---------|---------|----------|----------|
|                   | VP                 | .006   | .010   | .016    | .023    | .031    | .040     | .051     |
|                   | TP                 | .030   | .052   | .082    | .118    | .162    | .211     | .267     |
| 6" Dia.           | Flow Rate, CFM     | 60     | 80     | 95      | 115     | 135     | 155      | 175      |
|                   | T 4-Way            | 1-2-4  | 2-3-6  | 2-4-7   | 3-5-7   | 3-5-8   | 4-6-9    | 5-6-9    |
|                   | T 3-Way            | 2-3-6  | 2-4-8  | 3-5-11  | 4-6-12  | 5-7-13  | 5-8-14   | 6-10-15  |
|                   | T 2-Way            | 2-4-8  | 3-5-11 | 4-6-13  | 5-8-15  | 6-9-16  | 7-11-18  | 8-12-20  |
|                   | T 1-Way            | 3-4-9  | 4-6-12 | 5-8-16  | 6-9-18  | 7-11-20 | 8-12-22  | 9-14-23  |
|                   | NC                 | 16     | 22     | 27      | 32      | 37      | 41       | 44       |
| 8" Dia.           | Flow Rate, CFM     | 105    | 140    | 175     | 210     | 245     | 280      | 315      |
|                   | T 4-Way            | 2-3-6  | 2-4-8  | 3-5-9   | 4-6-10  | 4-7-11  | 4-8-12   | 5-9-12   |
|                   | T 3-Way            | 2-3-7  | 3-4-9  | 3-5-11  | 4-7-12  | 5-8-13  | 6-9-14   | 7-10-14  |
|                   | T 2-Way            | 3-4-9  | 4-6-13 | 5-8-15  | 6-9-17  | 7-11-18 | 8-13-20  | 9-14-21  |
|                   | T 1-Way            | 3-5-11 | 5-7-15 | 6-9-18  | 7-11-21 | 8-13-22 | 10-15-24 | 11-17-25 |
|                   | NC                 | 17     | 23     | 29      | 35      | 39      | 43       | 46       |
| 6 x 6             | Flow Rate, CFM     | 75     | 100    | 125     | 150     | 175     | 200      | 225      |
|                   | T 4-Way            | 1-2-5  | 2-3-7  | 3-4-8   | 3-5-8   | 4-6-9   | 5-7-10   | 5-7-11   |
|                   | T 3-Way            | 2-3-6  | 2-4-8  | 3-5-11  | 4-6-12  | 5-7-13  | 5-8-14   | 6-10-15  |
|                   | T 2-Way            | 3-4-9  | 4-6-12 | 5-7-15  | 6-9-17  | 7-10-20 | 8-12-21  | 9-14-22  |
|                   | T 1-Way            | 3-5-10 | 4-7-14 | 6-9-18  | 7-10-21 | 8-12-23 | 9-14-24  | 10-16-26 |
|                   | NC                 | 16     | 22     | 27      | 32      | 36      | 40       | 43       |
| 8 x 8             | Flow Rate, CFM     | 135    | 175    | 220     | 265     | 310     | 355      | 400      |
|                   | T 4-Way            | 2-3-6  | 3-4-9  | 3-5-10  | 4-6-11  | 5-8-12  | 6-9-13   | 6-10-14  |
|                   | T 3-Way            | 2-3-7  | 3-5-10 | 4-6-12  | 5-7-13  | 6-9-14  | 7-10-15  | 7-11-16  |
|                   | T 2-Way            | 3-5-11 | 4-7-14 | 6-9-17  | 7-11-20 | 8-13-21 | 9-14-23  | 11-16-24 |
|                   | T 1-Way            | 4-6-12 | 5-8-17 | 7-10-21 | 8-12-23 | 9-14-25 | 11-17-27 | 12-20-28 |
|                   | NC                 | 17     | 23     | 30      | 36      | 40      | 44       | 47       |

For performance notes, see page D190.

## Performance Data

### Models 4330CB, 4330CBA • 24 x 24 (600 x 600) Module Size • Round Neck

| Nominal Neck Size | Neck Velocity, FPM | 300     | 400      | 500      | 600      | 700      | 800      | 900      |
|-------------------|--------------------|---------|----------|----------|----------|----------|----------|----------|
|                   | VP                 | .006    | .010     | .016     | .023     | .031     | .040     | .051     |
|                   | TP                 | .030    | .052     | .082     | .118     | .162     | .211     | .267     |
| 6" Dia.           | Flow Rate, CFM     | 60      | 80       | 95       | 115      | 135      | 155      | 175      |
|                   | T 4-Way            | 1-2-4   | 2-3-6    | 2-3-7    | 3-4-7    | 3-5-8    | 4-6-9    | 4-6-9    |
|                   | 3-Way              | 1-2-5   | 2-3-7    | 2-4-8    | 3-5-9    | 4-6-9    | 4-7-10   | 5-7-11   |
|                   | 2-Way              | 2-3-7   | 3-4-9    | 4-6-11   | 4-7-12   | 5-8-13   | 6-9-14   | 7-11-15  |
|                   | 1-Way              | 2-4-8   | 3-5-11   | 4-7-13   | 5-8-15   | 6-9-16   | 7-11-17  | 8-12-18  |
|                   | NC                 | —       | 19       | 25       | 30       | 34       | 38       | 41       |
| 8" Dia.           | Flow Rate, CFM     | 105     | 140      | 175      | 210      | 245      | 280      | 315      |
|                   | T 4-Way            | 2-3-6   | 2-4-8    | 3-5-9    | 4-6-10   | 4-7-11   | 4-8-12   | 5-9-12   |
|                   | 3-Way              | 2-3-7   | 3-4-9    | 3-5-11   | 4-7-12   | 5-8-13   | 6-9-14   | 7-10-14  |
|                   | 2-Way              | 3-4-9   | 4-6-13   | 5-8-15   | 6-9-17   | 7-11-18  | 8-13-20  | 9-14-21  |
|                   | 1-Way              | 3-5-11  | 5-7-15   | 6-9-18   | 7-11-21  | 8-13-22  | 10-15-24 | 11-17-25 |
|                   | NC                 | 14      | 22       | 28       | 33       | 37       | 41       | 44       |
| 10" Dia.          | Flow Rate, CFM     | 165     | 215      | 270      | 325      | 380      | 435      | 490      |
|                   | T 4-Way            | 2-3-7   | 3-5-10   | 4-6-12   | 5-7-13   | 5-8-14   | 6-10-15  | 7-11-16  |
|                   | 3-Way              | 2-4-8   | 3-5-11   | 4-7-13   | 5-8-15   | 6-10-16  | 7-11-17  | 8-13-18  |
|                   | 2-Way              | 4-6-12  | 5-8-16   | 6-10-20  | 8-12-22  | 9-14-23  | 10-16-25 | 12-18-27 |
|                   | 1-Way              | 4-7-14  | 6-9-18   | 7-11-23  | 9-14-26  | 11-16-28 | 12-18-29 | 14-22-31 |
|                   | NC                 | 16      | 24       | 30       | 35       | 39       | 43       | 46       |
| 12" Dia.          | Flow Rate, CFM     | 235     | 315      | 390      | 470      | 550      | 625      | 705      |
|                   | T 4-Way            | 3-4-9   | 4-6-12   | 5-7-14   | 6-9-15   | 7-10-17  | 8-12-18  | 9-13-20  |
|                   | 3-Way              | 3-5-10  | 4-7-14   | 5-8-16   | 7-10-18  | 8-12-20  | 9-14-22  | 10-15-23 |
|                   | 2-Way              | 4-7-14  | 6-9-20   | 8-12-24  | 9-14-26  | 11-17-28 | 13-20-30 | 14-23-32 |
|                   | 1-Way              | 5-8-17  | 7-11-23  | 9-14-28  | 11-17-31 | 13-20-33 | 15-23-35 | 17-26-37 |
|                   | NC                 | 18      | 26       | 32       | 37       | 41       | 45       | 48       |
| 14" Dia.          | Flow Rate, CFM     | 320     | 425      | 535      | 640      | 750      | 855      | 960      |
|                   | T 4-Way            | 3-5-10  | 4-7-14   | 5-8-16   | 7-10-18  | 8-12-21  | 9-14-22  | 10-16-23 |
|                   | 3-Way              | 4-6-12  | 5-8-16   | 6-10-20  | 8-12-22  | 9-14-24  | 10-16-25 | 12-18-27 |
|                   | 2-Way              | 5-8-17  | 7-11-24  | 9-14-28  | 11-17-30 | 13-21-33 | 15-24-35 | 17-26-37 |
|                   | 1-Way              | 6-9-20  | 8-13-27  | 11-16-33 | 13-20-36 | 15-24-38 | 17-27-41 | 20-30-43 |
|                   | NC                 | 21      | 29       | 35       | 39       | 44       | 48       | 51       |
| 15" Dia.          | Flow Rate, CFM     | 370     | 490      | 615      | 740      | 860      | 985      | 1100     |
|                   | T 4-Way            | 3-6-10  | 4-2-14   | 5-8-17   | 8-10-19  | 8-13-21  | 10-14-23 | 10-16-24 |
|                   | 3-Way              | 4-6-12  | 6-8-17   | 6-11-21  | 8-13-22  | 10-14-25 | 11-16-26 | 13-18-28 |
|                   | 2-Way              | 4-8-17  | 7-12-25  | 9-15-30  | 11-18-31 | 13-22-34 | 16-25-35 | 17-27-38 |
|                   | 1-Way              | 6-9-20  | 8-14-28  | 12-17-34 | 14-21-37 | 16-24-39 | 18-27-42 | 17-31-43 |
|                   | NC                 | 22      | 30       | 36       | 40       | 45       | 49       | 52       |
| 16" Dia.          | Flow Rate, CFM     | 420     | 560      | 700      | 835      | 975      | 1115     | 1255     |
|                   | T 4-Way            | 4-6-12  | 5-8-16   | 6-10-20  | 8-12-22  | 9-14-23  | 10-16-25 | 12-18-26 |
|                   | 3-Way              | 4-7-14  | 6-9-18   | 7-11-23  | 9-14-25  | 10-16-27 | 12-18-29 | 14-22-30 |
|                   | 2-Way              | 6-9-20  | 8-13-27  | 10-16-32 | 13-20-35 | 15-24-37 | 17-27-40 | 20-30-42 |
|                   | 1-Way              | 7-11-23 | 10-15-31 | 12-18-37 | 15-23-41 | 17-27-44 | 21-31-47 | 23-35-50 |
|                   | NC                 | 23      | 31       | 37       | 41       | 46       | 50       | 53       |
| 18" Dia.          | Flow Rate, CFM     | 530     | 705      | 885      | 1060     | 1235     | 1415     | 1590     |
|                   | T 4-Way            | 4-7-14  | 5-9-18   | 7-10-20  | 9-13-24  | 10-16-26 | 10-19-28 | 13-21-29 |
|                   | 3-Way              | 4-7-17  | 6-10-21  | 8-12-24  | 10-15-28 | 11-20-30 | 13-22-32 | 17-24-34 |
|                   | 2-Way              | 7-10-23 | 10-14-29 | 11-17-34 | 15-22-36 | 18-28-43 | 20-30-44 | 24-34-50 |
|                   | 1-Way              | 8-12-26 | 11-17-33 | 14-21-40 | 18-25-45 | 21-32-50 | 23-38-53 | 29-40-56 |
|                   | NC                 | 25      | 33       | 39       | 43       | 48       | 52       | 55       |

For performance notes, see page D190.

## Performance Data

### Models 4330CB, 4330CBA • 24 x 24 (600 x 600) Module Size • Square Neck

| Nominal Neck Size | Neck Velocity, FPM |       | 300     | 400      | 500      | 600      | 700      | 800      | 900       |
|-------------------|--------------------|-------|---------|----------|----------|----------|----------|----------|-----------|
|                   | VP                 |       | .006    | .010     | .016     | .023     | .031     | .040     | .051      |
|                   | TP                 |       | .028    | .050     | .079     | .113     | .155     | .202     | .256      |
| 6 x 6             | Flow Rate, CFM     |       | 75      | 100      | 125      | 150      | 175      | 200      | 225       |
|                   | T                  | 4-Way | 1-2-5   | 2-3-7    | 3-4-8    | 3-5-8    | 4-6-9    | 5-7-10   | 5-7-11    |
|                   |                    | 3-Way | 2-3-6   | 2-4-8    | 3-5-11   | 4-6-12   | 5-7-13   | 5-8-14   | 6-10-15   |
|                   |                    | 2-Way | 3-4-9   | 4-6-12   | 5-7-15   | 6-9-17   | 7-10-20  | 8-12-21  | 9-14-22   |
|                   |                    | 1-Way | 3-5-10  | 4-7-14   | 6-9-18   | 7-10-21  | 8-12-23  | 9-14-24  | 10-16-26  |
| NC                |                    | —     | 20      | 26       | 31       | 35       | 39       | 42       |           |
| 8 x 8             | Flow Rate, CFM     |       | 135     | 175      | 220      | 265      | 310      | 355      | 400       |
|                   | T                  | 4-Way | 2-3-6   | 3-4-9    | 3-5-10   | 4-6-11   | 5-8-12   | 6-9-13   | 6-10-14   |
|                   |                    | 3-Way | 2-3-7   | 3-5-10   | 4-6-12   | 5-7-13   | 6-9-14   | 7-10-15  | 7-11-16   |
|                   |                    | 2-Way | 3-5-11  | 4-7-14   | 6-9-17   | 7-11-20  | 8-13-21  | 9-14-23  | 11-16-24  |
|                   |                    | 1-Way | 4-6-12  | 5-8-17   | 7-10-21  | 8-12-23  | 9-14-25  | 11-17-27 | 12-20-28  |
| NC                |                    | 15    | 23      | 29       | 34       | 38       | 42       | 45       |           |
| 10 x 10           | Flow Rate, CFM     |       | 210     | 275      | 345      | 415      | 485      | 555      | 625       |
|                   | T                  | 4-Way | 2-4-8   | 3-5-11   | 4-7-13   | 5-8-14   | 6-10-16  | 7-11-17  | 8-12-18   |
|                   |                    | 3-Way | 3-4-9   | 4-6-13   | 5-8-15   | 6-9-17   | 7-11-18  | 8-13-20  | 9-14-22   |
|                   |                    | 2-Way | 4-6-13  | 6-9-18   | 7-11-22  | 9-13-25  | 10-16-26 | 12-18-28 | 13-21-30  |
|                   |                    | 1-Way | 5-8-16  | 7-10-22  | 8-13-26  | 10-16-29 | 12-18-31 | 14-22-33 | 16-25-35  |
| NC                |                    | 17    | 25      | 31       | 36       | 40       | 44       | 47       |           |
| 12 x 12           | Flow Rate, CFM     |       | 300     | 400      | 500      | 600      | 700      | 800      | 900       |
|                   | T                  | 4-Way | 3-5-10  | 4-6-13   | 5-8-16   | 6-10-17  | 8-12-20  | 9-13-21  | 10-15-22  |
|                   |                    | 3-Way | 3-5-11  | 5-7-15   | 6-9-18   | 7-11-21  | 9-13-23  | 10-15-24 | 11-17-26  |
|                   |                    | 2-Way | 5-8-16  | 7-11-23  | 9-13-27  | 11-16-29 | 13-20-32 | 14-23-34 | 16-25-36  |
|                   |                    | 1-Way | 6-9-20  | 8-12-26  | 10-16-31 | 12-20-34 | 14-23-37 | 17-26-40 | 22-31-44  |
| NC                |                    | 19    | 25      | 33       | 38       | 42       | 46       | 49       |           |
| 14 x 14           | Flow Rate, CFM     |       | 410     | 545      | 680      | 815      | 955      | 1090     | 1360      |
|                   | T                  | 4-Way | 1-1-6   | 1-3-8    | 2-4-11   | 3-6-13   | 4-7-15   | 5-8-17   | 7-11-22   |
|                   |                    | 3-Way | 1-3-10  | 2-6-14   | 4-9-18   | 6-10-21  | 8-12-26  | 9-14-29  | 11-18-372 |
|                   |                    | 2-Way | 2-5-14  | 4-9-19   | 7-12-24  | 9-14-30  | 11-17-35 | 13-19-40 | 16-24-47  |
|                   |                    | 1-Way | 3-8-17  | 6-11-23  | 9-14-30  | 11-17-36 | 13-20-42 | 15-23-48 | 19-30-54  |
| NC                |                    | 22    | 30      | 36       | 40       | 45       | 49       | 52       |           |
| 15 x 15           | Flow Rate, CFM     |       | 470     | 625      | 780      | 935      | 1095     | 1250     | 1405      |
|                   | T                  | 4-Way | 4-6-12  | 5-8-17   | 7-10-21  | 8-12-23  | 10-15-25 | 11-17-26 | 12-20-28  |
|                   |                    | 3-Way | 4-7-14  | 6-9-20   | 8-12-24  | 9-14-26  | 11-17-28 | 13-20-30 | 14-23-32  |
|                   |                    | 2-Way | 6-10-21 | 9-13-28  | 11-17-33 | 13-21-37 | 16-25-40 | 18-28-42 | 21-32-45  |
|                   |                    | 1-Way | 8-12-25 | 10-16-33 | 13-21-39 | 16-25-43 | 18-29-46 | 22-33-49 | 25-37-53  |
| NC                |                    | 23    | 31      | 37       | 41       | 46       | 50       | 53       |           |
| 16 x 16           | Flow Rate, CFM     |       | 530     | 710      | 890      | 1065     | 1245     | 1420     | 1600      |
|                   | T                  | 4-Way | 4-7-14  | 5-9-18   | 7-10-20  | 9-13-24  | 10-16-26 | 10-19-28 | 13-21-29  |
|                   |                    | 3-Way | 4-7-17  | 6-10-21  | 8-12-24  | 10-15-28 | 11-20-30 | 13-22-32 | 17-24-34  |
|                   |                    | 2-Way | 7-10-23 | 10-14-29 | 11-17-34 | 15-22-36 | 18-28-43 | 20-30-44 | 24-34-50  |
|                   |                    | 1-Way | 8-12-26 | 11-17-33 | 14-21-40 | 18-25-45 | 21-32-50 | 23-38-53 | 29-40-56  |
| NC                |                    | 24    | 32      | 38       | 42       | 47       | 51       | 54       |           |
| 18 x 18           | Flow Rate, CFM     |       | 675     | 900      | 1125     | 1350     | 1575     | 1800     | 2025      |
|                   | T                  | 4-Way | 5-7-15  | 6-10-21  | 8-12-25  | 10-15-27 | 12-18-30 | 13-21-32 | 15-24-33  |
|                   |                    | 3-Way | 5-8-17  | 7-11-24  | 9-14-29  | 11-17-32 | 13-22-34 | 15-24-36 | 17-27-39  |
|                   |                    | 2-Way | 8-12-26 | 11-16-34 | 13-21-40 | 16-26-44 | 20-30-47 | 23-34-50 | 26-38-54  |
|                   |                    | 1-Way | 9-14-29 | 12-20-39 | 16-25-47 | 20-29-52 | 23-34-56 | 26-39-60 | 29-44-64  |
| NC                |                    | 26    | 34      | 40       | 44       | 49       | 53       | 56       |           |

CFM - cubic feet per minute

FPM - feet per minute velocity

TP - total pressure - inches w.g.

VP - velocity pressure - inches w.g.

T - throw in feet

NC - Noise Criteria (values) based on 10 dB room absorption, re 10<sup>-12</sup> watts.

#### Performance Notes:

1. Throws are given at 150, 100 and 50 fpm terminal velocities under isothermal conditions.
2. Data derived from tests conducted in accordance with ANSI/ASHRAE Standard 70 – 1991.

#### Balancing:

It is recommended that a commercially available 'Flow Hood' is used for field balancing. The airflow meter directly reads average flow rate with great accuracy at all volumes. It is a much faster and more accurate alternative to time consuming multiple velocity readings, eliminating the use of Ak factors and the calculations required to convert the average velocity into airflow.

## ALL ALUMINUM PERFORATED CEILING DIFFUSERS

- 100% ALUMINUM CONSTRUCTION
- SUITABLE FOR MRI ROOMS
- SUPPLY AND RETURN

### Models:

**4310A**      **Supply**  
**4310AR**     **Return**



The **Nailor Model 4310A Perforated Supply Diffusers** have an all aluminum constructed design that combines a smooth unobtrusive architectural appearance with the superior performance characteristics required by engineers. This diffuser is suitable for MRI rooms.

The **4310A** features a smoothly contoured die-formed backpan and wrap-around fixed perforated face. The round disc pattern deflector provides a true 360° radial horizontal air pattern. A tight air pattern protects the ceiling against smudging, providing excellent performance in VAV systems.

The **Nailor Model 4310AR Perforated Return Diffuser** is designed to match the supply model but omits the pattern deflector. It is suitable for ducted return applications.

### FEATURES:

- Specially designed for MRI Rooms.
- 24" x 24" (600 x 600) module design for suspended ceiling systems.
- Integral round neck is standard.
- Inlet collar has approximately 1 1/4" (32) depth for easy duct connection.

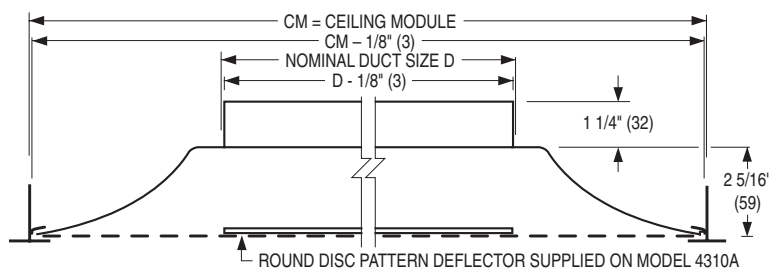
- Supply models incorporate an aluminum fixed round disc pattern deflector that provides a tight air pattern.
- Aluminum perforated face with 3/16" (5) diameter holes on staggered 1/4" (6) centers, providing 51% free area.
- Return models (**4310AR Series**) have the same face and frame

construction as the supply models without the deflector.

**Material:** 100% all aluminum construction.

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

### Type L Lay-in T-Bar



### Available Combinations of Ceiling Module vs. Neck Size

| Ceiling Module CM |                | Nominal Duct Size D       |                                   |
|-------------------|----------------|---------------------------|-----------------------------------|
| Imperial Modules  | Metric Modules | Round Neck                |                                   |
|                   |                | Imperial Units (in.)      | Metric Units (mm)                 |
| 24 x 24           | 600 x 600      | 6, 8, 10, 12, 14, 15 dia. | 152, 203, 254, 305, 356, 381 dia. |



## HOW TO SPECIFY OR TO ORDER

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

### All Aluminum Perforated Supply or Return Ceiling Diffusers – Model Series 4310A

4310A - 10 - 24 x 24 - L - AW - -

**MODEL**

- Supply 4310A
- Return 4310AR

**NECK SIZE (inches)**

06, 08, 10, 12, 14, 15 dia.

**CEILING MODULE**

Imperial (inches) Metric (mm)

- 24 x 24 600 x 600

**ACCESSORIES**

- None (default)

**FINISH**

- Appliance White (default) AW
- Special Custom Color SP
- AW Face/Black Backpan BA

**FRAME TYPE**

- Lay-in T-Bar L

D

CEILING DIFFUSERS

#### SUGGESTED SPECIFICATION:

**Model 4310A**

Furnish and install **Nailor Model 4310A All Aluminum Perforated Supply Ceiling Diffusers** of the sizes and capacities as shown on the plans and air distribution schedules. The diffuser shall have a die-formed aluminum backpan with an integral round neck. An aluminum perforated face with 3/16" (5) dia. holes on 1/4" (6) staggered centers, providing 51% free area, shall wrap around the backpan. A round stamped aluminum disc deflector shall be mounted on the perforated face. The finish shall be AW Appliance White baked enamel (optional finishes are available).

The manufacturer shall provide published performance data for the diffuser, which shall be tested in accordance with ANSI/ASHRAE Standard 70 – 1991.

**Model 4310AR**

Furnish and install **Nailor Model 4310AR All Aluminum Perforated Return Ceiling Diffusers** of the sizes and capacities as shown on the plans and air distribution schedules. The diffuser shall have a die-formed aluminum backpan with an integral round neck. An aluminum perforated face with 3/16" (5) dia. holes on 1/4" (6) staggered centers, providing 51% free area, shall wrap around the backpan. The finish shall be AW Appliance White baked enamel (optional finishes are available).

The manufacturer shall provide published performance data for the diffuser, which shall be tested in accordance with ANSI/ASHRAE Standard 70 – 1991.

## Performance Data

### Model 4310A • 24 x 24 (600 x 600) Module

| Nominal Neck Size | Neck Velocity, fpm | 300   | 400   | 500    | 600    | 700    | 800    | 900    | 1000    | 1200    | 1400    |
|-------------------|--------------------|-------|-------|--------|--------|--------|--------|--------|---------|---------|---------|
|                   | Velocity Pressure  | .006  | .010  | .016   | .023   | .031   | .040   | .051   | .063    | .090    | .122    |
| 6" Dia.           | Total Pressure     | .005  | .008  | .013   | .016   | .025   | .032   | .041   | .050    | .072    | .098    |
|                   | Airflow, cfm       | 60    | 80    | 100    | 120    | 140    | 160    | 180    | 195     | 235     | 275     |
|                   | Throw              | 1-1-2 | 1-1-2 | 1-1-3  | 1-2-3  | 1-2-4  | 1-2-4  | 2-3-5  | 2-3-6   | 2-3-7   | 3-4-8   |
|                   | NC                 | —     | —     | 16     | 18     | 20     | 22     | 24     | 26      | 31      | 37      |
| 8" Dia.           | Total Pressure     | .009  | .015  | .024   | .034   | .046   | .061   | .077   | .095    | .136    | .185    |
|                   | Airflow, cfm       | 105   | 140   | 175    | 210    | 245    | 280    | 315    | 350     | 420     | 490     |
|                   | Throw              | 1-1-3 | 1-2-3 | 1-2-4  | 2-3-5  | 2-3-6  | 2-3-7  | 3-4-8  | 3-4-9   | 3-5-10  | 4-6-12  |
|                   | NC                 | —     | —     | 18     | 21     | 24     | 27     | 31     | 34      | 39      | 46      |
| 10" Dia.          | Total Pressure     | .013  | .023  | .037   | .053   | .072   | .094   | .119   | .147    | .211    | .288    |
|                   | Airflow, cfm       | 165   | 220   | 270    | 325    | 380    | 435    | 490    | 585     | 655     | 765     |
|                   | Throw              | 1-2-4 | 2-2-5 | 2-3-6  | 2-4-7  | 3-4-8  | 3-5-10 | 4-5-11 | 4-6-12  | 5-7-14  | 6-8-17  |
|                   | NC                 | —     | —     | 19     | 22     | 25     | 28     | 33     | 36      | 41      | 48      |
| 12" Dia.          | Total Pressure     | .016  | .031  | .049   | .070   | .095   | .125   | .158   | .195    | .260    | .382    |
|                   | Airflow, cfm       | 235   | 315   | 390    | 470    | 550    | 630    | 705    | 785     | 940     | 1100    |
|                   | Throw              | 2-2-5 | 2-3-6 | 3-4-8  | 3-5-9  | 4-5-11 | 4-6-12 | 5-7-14 | 6-8-15  | 6-9-18  | 7-11-21 |
|                   | NC                 | —     | 16    | 21     | 25     | 29     | 32     | 35     | 38      | 44      | 50      |
| 14" Dia.          | Total Pressure     | .021  | .038  | .059   | .085   | .115   | .151   | .191   | .235    | .339    | .461    |
|                   | Airflow, cfm       | 320   | 430   | 535    | 640    | 750    | 855    | 960    | 1070    | 1285    | 1495    |
|                   | Throw              | 2-3-5 | 2-4-7 | 3-5-9  | 4-5-11 | 4-6-13 | 5-7-14 | 5-8-16 | 6-9-18  | 7-11-22 | 8-13-25 |
|                   | NC                 | —     | 16    | 22     | 27     | 32     | 35     | 39     | 43      | 49      | 53      |
| 15" Dia.          | Total Pressure     | .022  | .040  | .062   | .090   | .122   | .160   | .202   | .250    | .359    | .489    |
|                   | Airflow, cfm       | 370   | 490   | 615    | 735    | 860    | 980    | 1105   | 1230    | 1475    | 1720    |
|                   | Throw              | 2-3-5 | 3-4-7 | 3-5-10 | 4-6-11 | 5-7-13 | 5-8-15 | 6-9-17 | 7-10-19 | 8-12-23 | 9-14-27 |
|                   | NC                 | —     | 17    | 23     | 29     | 34     | 37     | 41     | 45      | 51      | 55      |

**CFM** - cubic feet per minute

**FPM** - feet per minute velocity

**TP** - total pressure - inches w.g.

**VP** - velocity pressure - inches w.g.

**T** - throw in feet

**NC** - Noise Criteria (values) based on 10 dB room absorption, re 10<sup>-12</sup> watts.

#### Performance Notes:

1. All pressures are in inches w.g. To obtain static pressure, subtract the velocity pressure from the total pressure.
2. Throws are given at 150, 100 and 50 fpm terminal velocities, under isothermal conditions.
3. NC (Noise Criteria) values are based on 10 dB room absorption, re 10<sup>-12</sup> watts. Dash (—) in spaces indicates an NC level of less than 15.
4. Data derived from tests conducted in accordance with ANSI/ASHRAE Standard 70 – 1991.

#### Balancing:

It is recommended that a commercially available 'Flow Hood' is used for field balancing. The airflow meter directly reads average flow rate with great accuracy at all volumes. It is a much faster and more accurate alternative to time consuming multiple velocity readings, eliminating the use of Ak factors and the calculations required to convert the average velocity into airflow.

## PERFORATED RETURN AIR DIFFUSERS

- MATCH AND COMPLIMENT SUPPLY MODELS
- SUITABLE FOR DUCTED RETURN APPLICATIONS

### Steel Models:

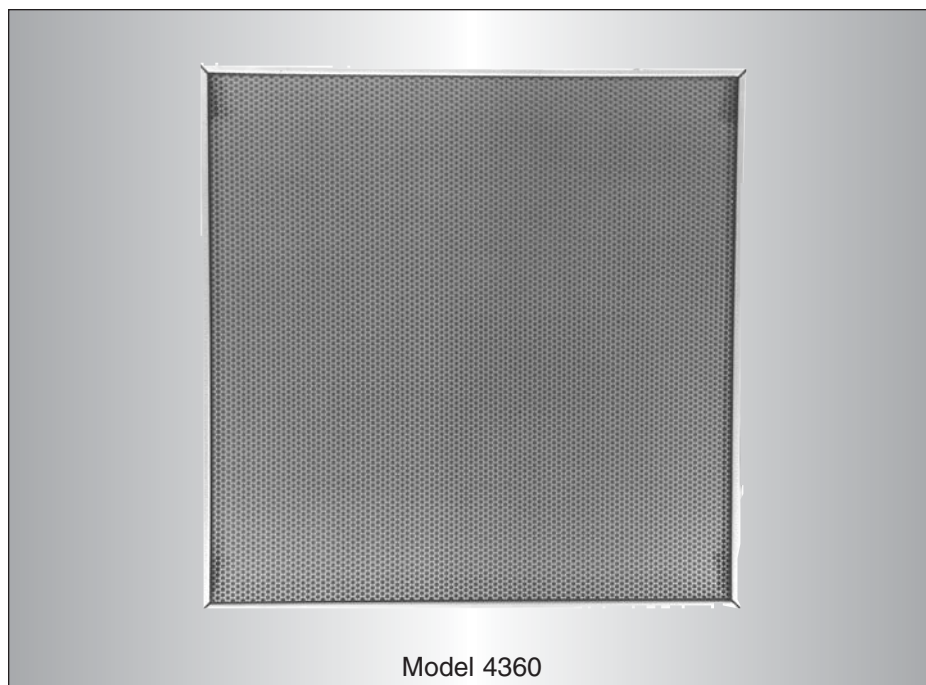
- 4360 Flush Face
- 4365 Drop Face

### Aluminum Face Models:

- 4360A Flush Face
- 4365A Drop Face

### Aluminum Models:

- 4360AA Flush Face
- 4365AA Drop Face



The **Nailor 4360 Series Perforated Face** return air models are designed to match supply air models **4320**, **4320CB**, **4320F**, **4320MR** and **4320M** in appearance and construction detail, less the air pattern controllers which are not required.

The **4360 Series** is offered in two versions. One for ducted return applications which features the same backpan as the supply air models with a neck for connection to flexible or rigid round duct or square duct. The other version features a dedicated frame assembly which has a neck that is 2" (51) less than the ceiling module size. This unit maximizes free area and may be used for ducted or ductless return air applications.

The **4365** model features a drop (extended) face panel that both matches in appearance the drop face supply models and compliments regular tile ceiling systems, allowing the perforated face panel to remain flush with the ceiling line.

### FEATURES:

- Round or square necks available.
  - Hinged, removable face plate with quick-release spring latches.
  - Inlet collar has minimum 1 1/4" (32) depth for easy duct connection.
  - Dropping the perforated face gives access to the optional damper.
  - Perforated face with 3/16" (5) diameter holes on staggered 1/4" (6) centers, providing 51% free area.
- Material:** Models **4360/4365** have a corrosion-resistant steel perforated face and backpan. Models **4360A/4365A** have an aluminum perforated face and a corrosion-resistant steel backpan. Models **4360AA/4365AA** have an aluminum perforated face and backpan.
- Finish:** AW Appliance White baked enamel finish is standard. Other finishes are available.

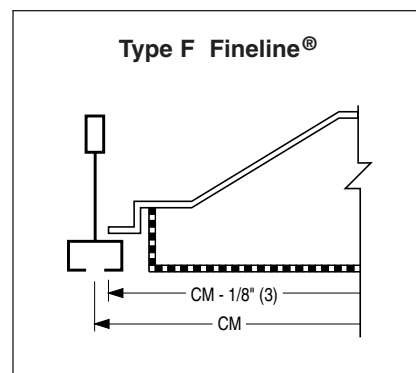
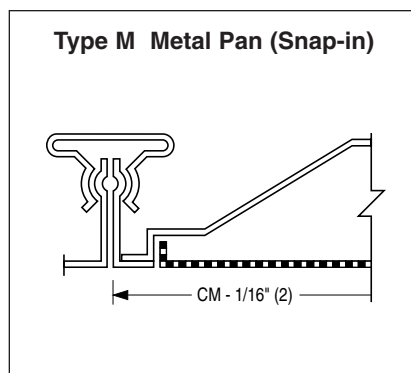
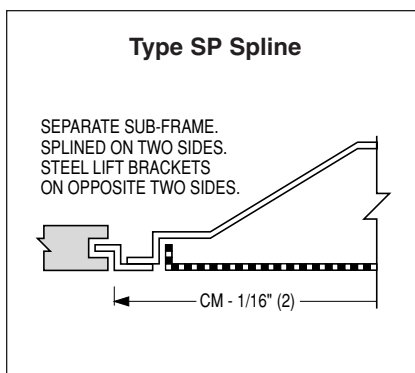
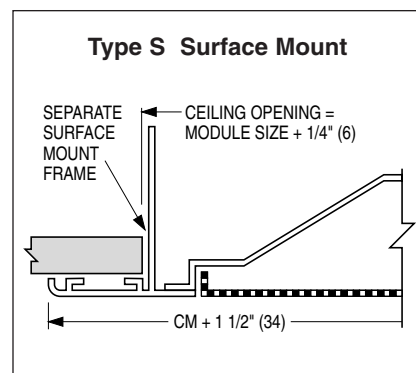
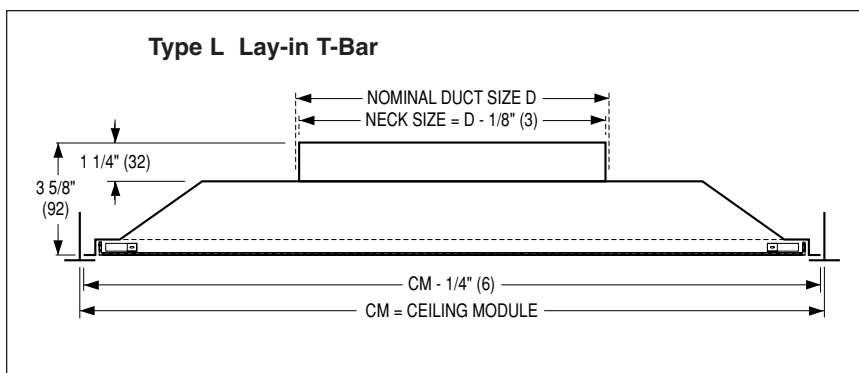
### Available Combinations of Ceiling Module vs. Neck Size

| Ceiling Module CM |                | Nominal Duct Size D               |                                             |                                                                             |                                                                                                    |
|-------------------|----------------|-----------------------------------|---------------------------------------------|-----------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|
| Imperial Modules  | Metric Modules | Round Neck                        |                                             | Square/Rectangular Neck                                                     |                                                                                                    |
|                   |                | Imperial Units (in.)              | Metric Units (mm)                           | Imperial Units (in.)                                                        | Metric Units (mm)                                                                                  |
| 12 x 12           | 300 x 300      | 6, 8 dia.                         | 152, 203 dia.                               | 6 x 6, 8 x 8, 10 x 10                                                       | 152 x 152, 203 x 203, 254 x 254                                                                    |
| 16 x 16           | 400 x 400      | 6, 8, 10, 12 dia.                 | 152, 203, 254, 305 dia.                     | 6 x 6, 8 x 8, 10 x 10, 12 x 12, 14 x 14                                     | 152 x 152, 203 x 203, 254 x 254, 305 x 305, 356 x 356                                              |
| 24 x 12           | 600 x 300      | 6, 8 dia.                         | 152, 203 dia.                               | 6 x 6, 8 x 8, 18 x 6, 22 x 10                                               | 152 x 152, 203 x 203, 457 x 152, 559 x 254                                                         |
| 20 x 20           | 500 x 500      | 6, 8, 10, 12, 14 dia.             | 152, 203, 254, 305, 356 dia.                | 6 x 6, 8 x 8, 10 x 10, 18 x 18                                              | 152 x 152, 203 x 203, 254 x 254, 457 x 457                                                         |
| 24 x 24           | 600 x 600      | 6, 8, 10, 12, 14, 15, 16, 18 dia. | 152, 203, 254, 305, 356, 381, 406, 457 dia. | 6 x 6, 8 x 8, 10 x 10, 12 x 12, 14 x 14, 15 x 15, 16 x 16, 18 x 18, 22 x 22 | 152 x 152, 203 x 203, 254 x 254, 305 x 305, 356 x 356, 381 x 381, 406 x 406, 457 x 457, 559 x 559  |
| 48 x 24           | 1200 x 600     | 6, 8, 10, 12, 14, 15, 16, 18 dia. | 152, 203, 254, 305, 356, 381, 406, 457 dia. | 6 x 6, 8 x 8, 10 x 10, 12 x 12, 14 x 14, 15 x 15, 16 x 16, 18 x 18, 46 x 22 | 152 x 152, 203 x 203, 254 x 254, 305 x 305, 356 x 356, 381 x 381, 406 x 406, 457 x 457, 1168 x 559 |

## Dimensional Data and Frame Types

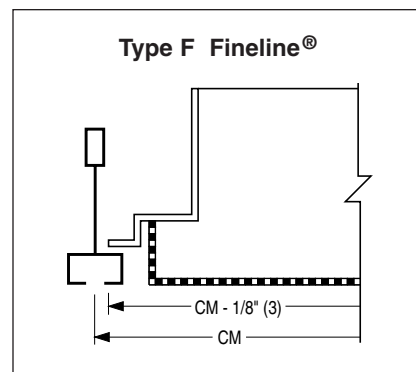
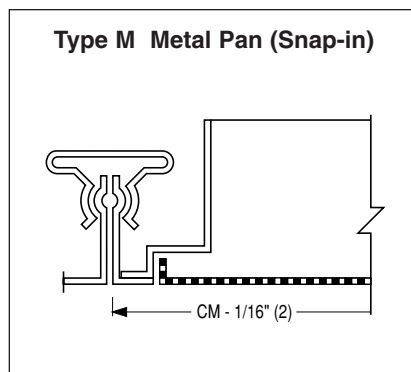
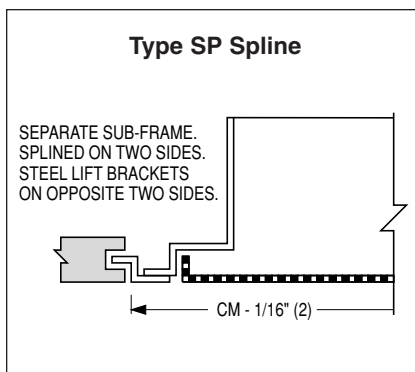
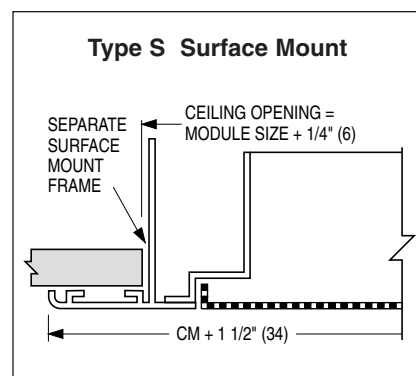
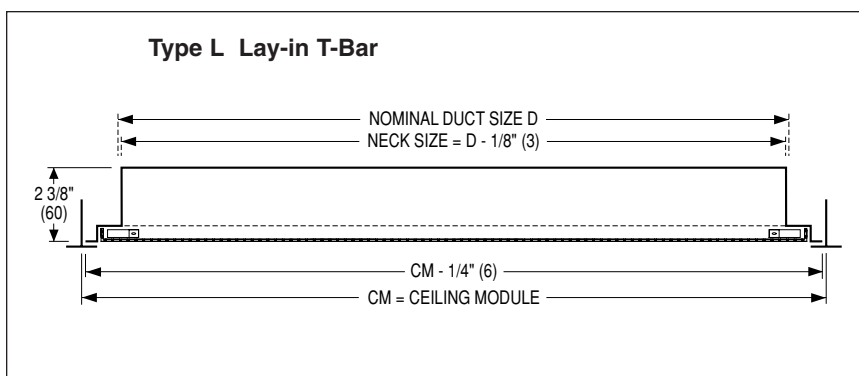
### Models 4360, 4360A, 4360AA • Return • Flush Face

All round ducts and square ducts when duct size is less than CM - 2" (51).



### Models 4360, 4360A, 4360AA • Return • Flush Face

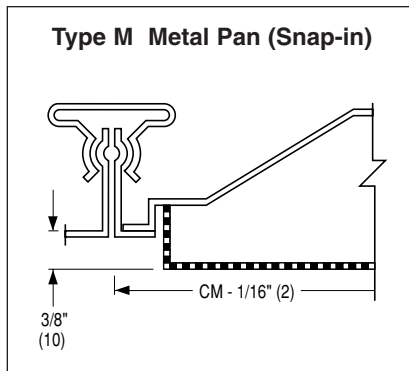
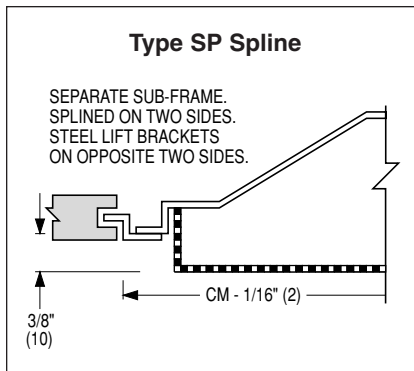
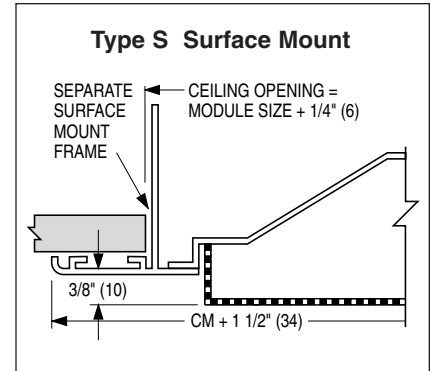
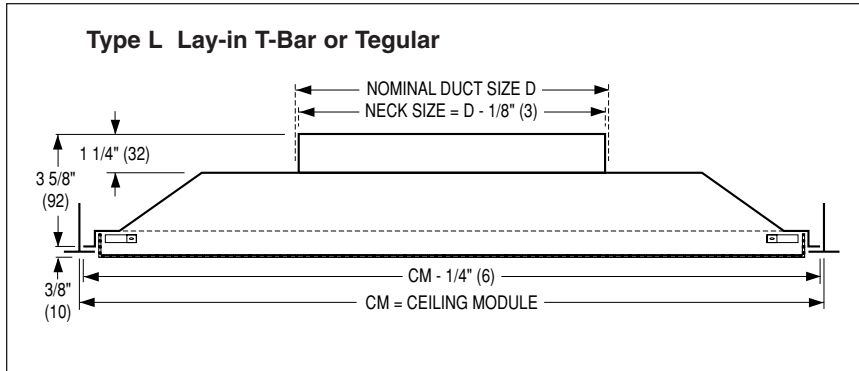
When duct size = CM - 2" (51).



## Dimensional Data and Frame Types

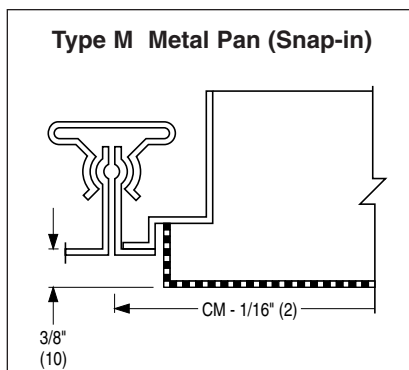
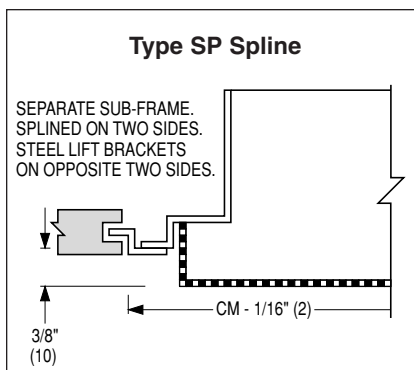
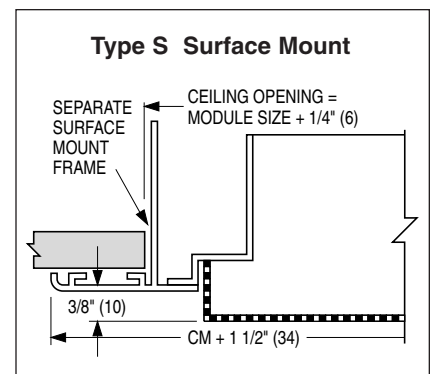
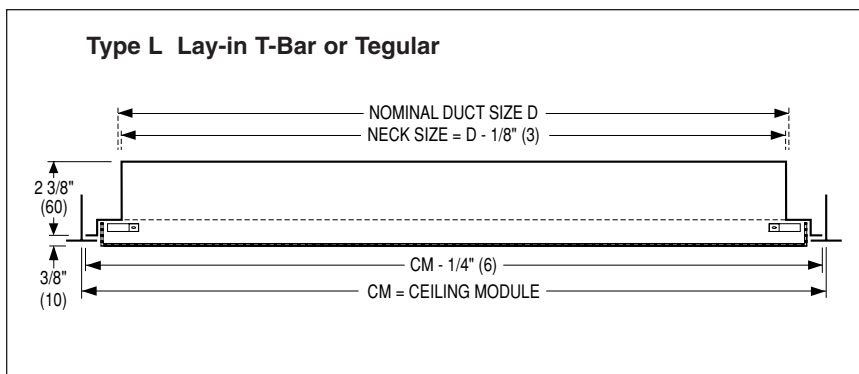
### Models 4365, 4365A, 4365AA • Return • Drop Face

All round ducts and square ducts when duct size is less than CM - 2" (51).



### Models 4365, 4365A, 4365AA • Return • Drop Face

When duct size = CM - 2" (51).



## HOW TO SPECIFY OR TO ORDER

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

### Perforated Return Ceiling Diffusers – Model Series 4360

4360 - 22 x 22 - 24 x 24 - L - AW - -

#### MODEL

|                 |            |        |
|-----------------|------------|--------|
| - Steel         | Flush Face | 4360   |
|                 | Drop Face  | 4365   |
| - Aluminum Face | Flush Face | 4360A  |
|                 | Drop Face  | 4365A  |
| - Aluminum      | Flush Face | 4360AA |
|                 | Drop Face  | 4365AA |

#### NECK SIZE (inches)

##### Round

06, 08, 10, 12, 14, 15, 16, 18

##### Square/Rectangular

6 x 6, 8 x 8, 10 x 10, 12 x 12,  
14 x 14, 18 x 6, 15 x 15, 18 x 6,  
18 x 18, 22 x 10, 22 x 22, 46 x 22

#### CEILING MODULE

##### Imperial (inches)    Metric (mm)

|           |            |
|-----------|------------|
| - 12 x 12 | 300 x 300  |
| - 16 x 16 | 400 x 400  |
| - 20 x 20 | 500 x 500  |
| - 24 x 12 | 600 x 300  |
| - 24 x 24 | 600 x 600  |
| - 48 x 24 | 1200 x 600 |

#### ACCESSORIES

|                                 |     |
|---------------------------------|-----|
| - None (default)                | —   |
| - External Foil Back Insulation | EX  |
| - Earthquake Tabs               | EQT |

#### AIR BALANCING DEVICES

##### Round Neck

|                               |      |
|-------------------------------|------|
| - Radial Sliding Blade Damper | 4250 |
| - Radial Opposed Blade Damper | 4275 |
| - Butterfly Damper            | 4675 |

##### Square Neck

|                        |     |
|------------------------|-----|
| - Opposed Blade Damper | OBD |
|------------------------|-----|

#### FINISH

|                             |    |
|-----------------------------|----|
| - Appliance White (default) | AW |
| - Special Custom Color      | SP |
| - AW Face/Black Backpan     | BA |

#### FRAME TYPE

|                     |    |
|---------------------|----|
| - Lay-in T-Bar      | L  |
| - Surface Mount     | S  |
| - Spline            | SP |
| - Metal Pan Snap-in | M  |
| - Fineline®         | F  |

D

CEILING DIFFUSERS

#### Notes:

1. If more than one accessory is required, list in order.
2. Consult individual models as to limitations and availability of ceiling module and neck size combinations.



## SUGGESTED SPECIFICATION:

### Models 4360, 4365 – Steel

Furnish and install **Nailor Model** (select one) **4360 Flush Face** or **4365 Drop Face, Perforated Return Ceiling Diffusers** of the sizes and capacities as shown on the plans and air distribution schedules. The diffuser shall have a heavy gauge, stamped corrosion-resistant steel backpan with a round or square neck. A steel perforated face shall have 3/16" (5) dia. holes on 1/4" (6) staggered centers, providing 51% free area. The face shall be removable, hinged and include quick-release spring latches allowing easy access for cleaning (and adjusting the optional damper). The finish shall be AW Appliance White baked enamel (optional finishes are available).

The manufacturer shall provide published performance data for the diffuser, which shall be tested in accordance with ANSI/ASHRAE Standard 70 – 1991.

### Models 4360A, 4365A – Aluminum Face

Furnish and install **Nailor Model** (select one) **4360A Flush Face** or **4365A Drop Face, Perforated Return Ceiling Diffusers** of the sizes and capacities as shown on the plans and air distribution schedules. The diffuser shall have a heavy gauge, stamped corrosion-resistant steel backpan with a round or square neck. An aluminum perforated face shall have 3/16" (5) dia. holes on 1/4" (6) staggered centers, providing 51% free area. The face shall be removable, hinged and include quick-release spring latches allowing easy access for cleaning (and adjusting the optional damper). The finish shall be AW Appliance White baked enamel (optional finishes are available).

The manufacturer shall provide published performance data for the diffuser, which shall be tested in accordance with ANSI/ASHRAE Standard 70 – 1991.

### Models 4360AA, 4365AA – Aluminum

Furnish and install **Nailor Model** (select one) **4360AA Flush Face** or **4365AA Drop Face, Perforated Return Ceiling Diffusers** of the sizes and capacities as shown on the plans and air distribution schedules. The diffuser shall have an aluminum backpan with a round or square neck. An aluminum perforated face shall have 3/16" (5) dia. holes on 1/4" (6) staggered centers, providing 51% free area. The face shall be removable, hinged and include quick-release spring latches allowing easy access for cleaning (and adjusting the optional damper). The finish shall be AW Appliance White baked enamel (optional finishes are available).

The manufacturer shall provide published performance data for the diffuser, which shall be tested in accordance with ANSI/ASHRAE Standard 70 – 1991.

## Performance Data

**Models 4360, 4360A, 4360AA • Flush Face • Return Module**  
**4365, 4365A, 4365AA • Drop Face • Return Module**

| Ceiling Module | Neck Size | Neck Velocity, FPM | 300  | 400  | 500  | 600  | 700  | 800  | 1000 | 1200 | 1400 |
|----------------|-----------|--------------------|------|------|------|------|------|------|------|------|------|
|                |           | Negative SP        | .024 | .042 | .067 | .096 | .130 | .170 | .266 | .383 | .522 |
|                |           | VP                 | .006 | .010 | .016 | .023 | .031 | .040 | .063 | .090 | .123 |
| 12 x 12        | 6" dia.   | Airflow, CFM       | 59   | 78   | 98   | 118  | 137  | 157  | 196  | 235  | 275  |
|                |           | NC                 | —    | —    | —    | 10   | 14   | 18   | 27   | 32   | 38   |
|                | 6 x 6     | Airflow, CFM       | 75   | 100  | 125  | 150  | 175  | 200  | 280  | 300  | 350  |
|                |           | NC                 | —    | —    | —    | 12   | 17   | 21   | 30   | 35   | 41   |
|                | 8" dia.   | Airflow, CFM       | 105  | 140  | 175  | 209  | 244  | 279  | 349  | 419  | 489  |
|                |           | NC                 | —    | —    | —    | 14   | —    | 14   | 23   | 28   | 34   |
| 20 x 20        | 8 x 8     | Airflow, CFM       | 133  | 178  | 222  | 267  | 311  | 356  | 444  | 533  | 622  |
|                |           | NC                 | —    | —    | —    | —    | —    | 15   | 24   | 29   | 35   |
|                | 10 x 10   | Airflow, CFM       | 208  | 277  | 347  | 416  | 485  | 555  | 694  | 832  | 971  |
|                |           | NC                 | —    | 15   | 22   | 28   | 33   | 37   | 44   | 51   | 57   |
|                | 18 x 18   | Airflow, CFM       | 675  | 900  | 1125 | 1350 | 1575 | 1800 | 2250 | 2700 | 3150 |
|                |           | NC                 | —    | 17   | 24   | 30   | 35   | 39   | 46   | 53   | 58   |
| 24 x 24        | 22 x 10   | Airflow, CFM       | 459  | 612  | 765  | 918  | 1071 | 1224 | 1530 | 1836 | 2142 |
|                |           | NC                 | —    | 17   | 23   | 29   | 34   | 39   | 46   | 53   | 58   |
|                | 6" dia.   | Airflow, CFM       | 59   | 78   | 98   | 118  | 137  | 157  | 196  | 235  | 275  |
|                |           | NC                 | —    | —    | —    | 10   | 15   | 19   | 26   | 33   | 38   |
|                | 6 x 6     | Airflow, CFM       | 75   | 100  | 125  | 150  | 175  | 200  | 250  | 300  | 350  |
|                |           | NC                 | —    | —    | —    | 12   | 17   | 21   | 28   | 35   | 40   |
| 24 x 24        | 8" dia.   | Airflow, CFM       | 105  | 140  | 175  | 209  | 244  | 279  | 349  | 419  | 489  |
|                |           | NC                 | —    | —    | —    | 14   | 19   | 23   | 30   | 37   | 42   |
|                | 8 x 8     | Airflow, CFM       | 133  | 178  | 222  | 267  | 311  | 356  | 444  | 533  | 622  |
|                |           | NC                 | —    | —    | —    | 15   | 20   | 24   | 31   | 38   | 43   |
|                | 10" dia.  | Airflow, CFM       | 164  | 218  | 273  | 327  | 382  | 436  | 545  | 654  | 764  |
|                |           | NC                 | —    | —    | 10   | 16   | 21   | 25   | 32   | 39   | 44   |
|                | 10 x 10   | Airflow, CFM       | 208  | 278  | 347  | 417  | 486  | 556  | 694  | 833  | 972  |
|                |           | NC                 | —    | —    | 11   | 17   | 22   | 26   | 33   | 40   | 45   |
|                | 12" dia.  | Airflow, CFM       | 236  | 314  | 393  | 471  | 550  | 628  | 785  | 942  | 1100 |
|                |           | NC                 | —    | —    | 13   | 19   | 24   | 28   | 35   | 42   | 47   |
|                | 12 x 12   | Airflow, CFM       | 300  | 400  | 500  | 600  | 700  | 800  | 900  | 1200 | 1400 |
|                |           | NC                 | —    | —    | 14   | 20   | 25   | 29   | 36   | 43   | 48   |
|                | 14" dia.  | Airflow, CFM       | 321  | 428  | 535  | 641  | 748  | 855  | 1069 | 1283 | 1497 |
|                |           | NC                 | —    | —    | 15   | 21   | 26   | 30   | 37   | 44   | 49   |
|                | 14 x 14   | Airflow, CFM       | 408  | 544  | 681  | 817  | 953  | 1089 | 1361 | 1633 | 1906 |
|                |           | NC                 | —    | 10   | 17   | 23   | 28   | 32   | 39   | 46   | 51   |
|                | 15 x 15   | Airflow, CFM       | 469  | 625  | 781  | 938  | 1094 | 1250 | 1563 | 1875 | 2188 |
|                |           | NC                 | —    | 12   | 19   | 25   | 30   | 34   | 41   | 48   | 53   |
| 48 x 24        | 16" dia.  | Airflow, CFM       | 419  | 559  | 698  | 838  | 977  | 1117 | 1396 | 1676 | 1955 |
|                |           | NC                 | —    | 10   | 17   | 23   | 28   | 32   | 39   | 46   | 51   |
|                | 18 x 18   | Airflow, CFM       | 675  | 900  | 1125 | 1350 | 1575 | 1800 | 2250 | 2700 | 3150 |
|                |           | NC                 | —    | 16   | 23   | 29   | 34   | 38   | 45   | 52   | 57   |
|                | 22 x 22   | Airflow, CFM       | 1007 | 1344 | 1679 | 2015 | 2352 | 2688 | 3359 | 4031 | 4704 |
|                |           | NC                 | —    | 18   | 25   | 31   | 36   | 40   | 47   | 54   | 59   |
| 48 x 24        | 46 x 22   | Airflow, CFM       | 2108 | 2811 | 3514 | 4217 | 4919 | 5622 | 7028 | 8433 | 9839 |
|                |           | NC                 | 11   | 20   | 27   | 34   | 38   | 43   | 50   | 57   | 62   |

**CFM** - cubic feet per minute

**FPM** - feet per minute velocity

**VP** - velocity pressure - inches w.g.

**SP** - static pressure - inches w.g.

**NC** - Noise Criteria (values) based on 10 dB room absorption, re 10<sup>-12</sup> watts.

### Performance Notes:

1. Data derived from tests conducted in accordance with ANSI/ASHRAE Standard 70 – 1991.

**D**

**CEILING DIFFUSERS**

## PERFORATED RETURN AIR DIFFUSERS

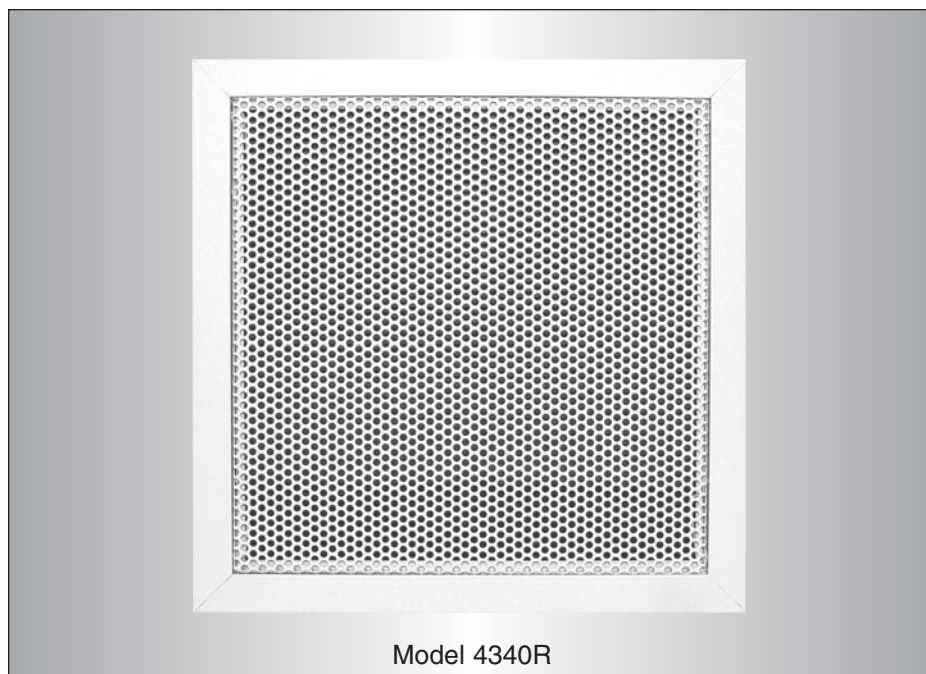
- SURFACE MOUNT
- SQUARE NECK
- MATCH AND COMPLIMENT  
4340CB AND 4340M  
SUPPLY MODELS

Steel Face Model:

4340R

Aluminum Model:

4340RA



Model 4340R

CEILING DIFFUSERS

The **Nailor 4340R Series Perforated Face Return Air Diffusers** are designed to match supply air **Models 4340CB** and **4340M** in appearance, except that the air pattern controllers are omitted.

The **4340R** is a square neck grille frame style design, for surface mount installation in hard ceilings. It is suitable for both ducted and ductless return air applications.

### FEATURES:

- Square neck.
- Available in nominal duct sizes from 6" x 6" (152 x 152) to 24" x 24" (610 x 610) in 2" (51) increments.
- Frame is mechanically interlocked for strength with hairline mitered corners.
- Hinged, removable face plate with concealed quick release spring latches.

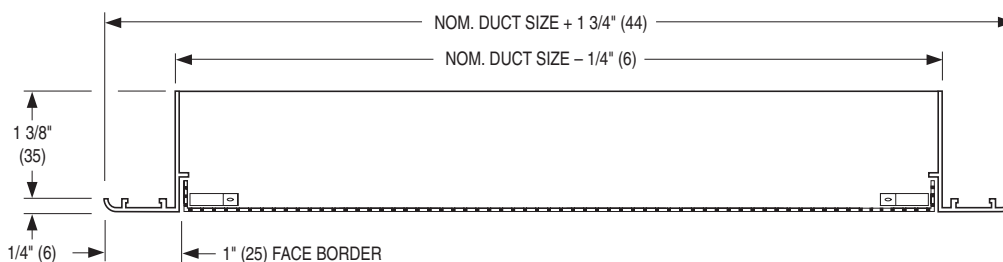
- Perforated face has 3/16" (5) diameter holes on 1/4" (6) staggered centers, providing 51% free area.
- Type N standard fastening is with sheet metal screws (by others), through the neck of the diffuser outer frame. Optional Type A countersunk screw holes on face of outer frame.

- Dropping the perforated face gives access to the optional opposed blade damper.

**Material:** Extruded aluminum frame. Corrosion-resistant steel or aluminum perforated face depending on model selection.

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

### Type S Surface Mount



## HOW TO SPECIFY OR TO ORDER

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

### Full Face Square Neck Perforated Return Diffusers – Model Series 4340R

**4340R - 12 x 12 - S - AW - N - -**

|                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>MODEL</b></p> <ul style="list-style-type: none"> <li>- Steel Face                      4340R</li> <li>- Aluminum                      4340RA</li> </ul> <p><b>NECK SIZE (inches)</b></p> <p><b>Square</b></p> <p>6 x 6, 8 x 8, 10 x 10, 12 x 12,<br/>14 x 14, 16 x 16, 18 x 18,<br/>20 x 20, 22 x 22, 24 x 24</p> <p><b>FRAME TYPE</b></p> <ul style="list-style-type: none"> <li>- Surface Mount (default)                      S</li> </ul> | <p><b>ACCESSORIES</b></p> <ul style="list-style-type: none"> <li>- None (default)                      —</li> <li>- Foam Gasket                      GK</li> <li>- Earthquake Tabs                      EQT</li> </ul> <p><b>FASTENING</b></p> <ul style="list-style-type: none"> <li>- None (default)                      N<br/>(installs through neck of frame)</li> <li>- Countersunk holes on outer frame                      A</li> </ul> <p><b>FINISH</b></p> <ul style="list-style-type: none"> <li>- Appliance White (default)                      AW</li> <li>- Special Custom Color                      SP</li> </ul> |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

**D**

**CEILING DIFFUSERS**

#### Notes:

1. If more than one accessory is required, list in order.

#### SUGGESTED SPECIFICATION:

Furnish and install **Nailor Model** (select one) **4340R** (corrosion-resistant steel face with aluminum frame) or **4340RA** (aluminum) **Full Face Square Neck Perforated Return Ceiling Diffusers** of the sizes and capacities as shown on the plans and air distribution schedules. The diffuser shall have a mechanically interlocked extruded aluminum frame with hairline mitered corners. The perforated face shall have 3/16" (5) dia. holes on 1/4" (6) staggered centers, providing 51% free area. The face shall also be removable, hinged and include quick-release spring latches allowing easy access for cleaning. The diffuser shall be surface mounted and fastened through the neck with sheet metal screws. The finish shall be AW Appliance White baked enamel (optional finishes are available).

The manufacturer shall provide published performance data for the diffuser, which shall be tested in accordance with ANSI/ASHRAE Standard 70 – 1991.

## Performance Data

### Model 4340R, 4340RA • Surface Mount • Square Neck

| Listed Duct Size (inches) | Core Area (sq. ft.) | Ak Factor | Core Velocity VP<br>Neg. SP | 300<br>.006<br>.024 | 400<br>.010<br>.042 | 500<br>.016<br>.067 | 600<br>.022<br>.095 | 700<br>.031<br>.130 | 800<br>.040<br>.170 | 900<br>.051<br>.215 | 1000<br>.062<br>.265 | 1200<br>.090<br>.382 |
|---------------------------|---------------------|-----------|-----------------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|----------------------|----------------------|
| 6 x 6                     | 0.20                | 0.20      | CFM<br>NC                   | 60<br>—             | 80<br>—             | 100<br>—            | 120<br>15           | 140<br>21           | 160<br>26           | 180<br>32           | 200<br>37            | 240<br>44            |
| 8 x 8                     | 0.38                | 0.36      | CFM<br>NC                   | 114<br>—            | 152<br>—            | 190<br>11           | 228<br>18           | 266<br>25           | 304<br>29           | 342<br>35           | 380<br>40            | 456<br>47            |
| 10 x 10                   | 0.61                | 0.56      | CFM<br>NC                   | 183<br>—            | 244<br>—            | 305<br>13           | 366<br>20           | 427<br>27           | 488<br>31           | 549<br>37           | 610<br>42            | 732<br>49            |
| 12 x 12                   | 0.90                | 0.80      | CFM<br>NC                   | 270<br>—            | 360<br>—            | 450<br>15           | 540<br>22           | 630<br>28           | 720<br>33           | 810<br>38           | 900<br>44            | 1080<br>51           |
| 14 x 14                   | 1.24                | 1.09      | CFM<br>NC                   | 372<br>—            | 496<br>—            | 620<br>16           | 744<br>23           | 868<br>29           | 992<br>34           | 1116<br>39          | 1240<br>45           | 1488<br>52           |
| 16 x 16                   | 1.64                | 1.42      | CFM<br>NC                   | 492<br>—            | 656<br>—            | 820<br>17           | 984<br>24           | 1148<br>30          | 1312<br>35          | 1476<br>40          | 1640<br>46           | 1968<br>53           |
| 18 x 18                   | 2.10                | 1.80      | CFM<br>NC                   | 630<br>—            | 840<br>—            | 1050<br>17          | 1260<br>24          | 1470<br>30          | 1680<br>36          | 1890<br>40          | 2100<br>46           | 2520<br>53           |
| 20 x 20                   | 2.61                | 2.22      | CFM<br>NC                   | 783<br>—            | 1044<br>11          | 1305<br>18          | 1566<br>25          | 1827<br>30          | 2088<br>37          | 2349<br>41          | 2610<br>47           | 3132<br>54           |
| 22 x 22                   | 3.17                | 2.69      | CFM<br>NC                   | 951<br>—            | 1268<br>11          | 1585<br>18          | 1902<br>26          | 2219<br>31          | 2536<br>37          | 2853<br>42          | 3170<br>48           | 3804<br>55           |
| 24 x 24                   | 3.79                | 3.20      | CFM<br>NC                   | 1137<br>—           | 1516<br>12          | 1895<br>19          | 2274<br>27          | 2653<br>33          | 3032<br>38          | 3411<br>43          | 3790<br>49           | 4548<br>56           |

**CFM** - cubic feet per minute  
**VP** - velocity pressure - inches w.g.  
**Neg. SP** - negative static pressure - inches w.g.  
**NC** - Noise Criteria values are based on 10 dB room absorption, re 10<sup>-12</sup> watts.

Core Velocity is in feet per minute.

#### Performance Notes:

1. Diffuser tested without damper. Apply the following corrections for addition of opposed blade damper to diffuser:

**Neg. SP** Listed Value x 1.10.

**NC** Add 5 dB to listed value.

2. Data derived from tests conducted in accordance with ANSI/ASHRAE Standard 70 – 1991.

#### Airflow Measurements

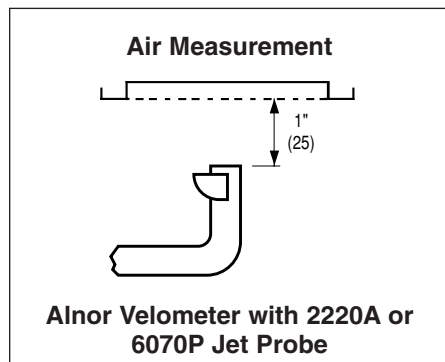
1. Balancing factors are applicable with or without dampers, providing uniform airflow exists into diffuser.

2. Take velocity readings at a number of locations on the inlet face (a minimum of 4), while positioning probe as shown above, one inch out from the face.

3. Total the various velocity readings and divide by the number of readings taken to arrive at an average inlet velocity (Vk in FPM).

4. Calculate the airflow (CFM) by multiplying the average velocity by the appropriate Ak factor.

Airflow (CFM) = Average velocity (Vk) x Ak.



## PERFORATED RETURN AIR PANELS

- SUITABLE FOR DUCTLESS (PLENUM) RETURN AIR APPLICATIONS

### Steel Models:

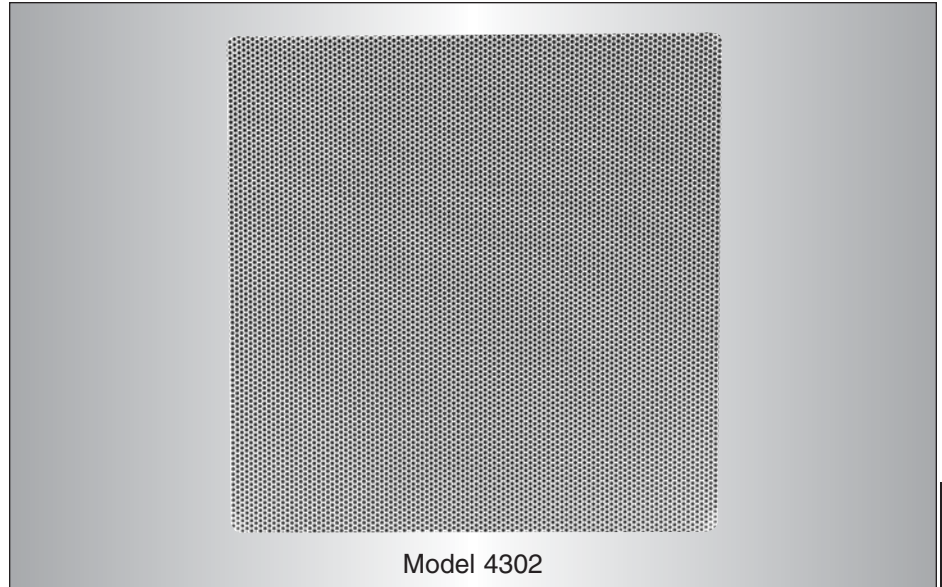
**4302 Flush Face**

**4302-DF Drop Face**

**4302-F Fineline®**

### Aluminum Model:

**4302A Flush Face**



The **Nailor 4302 Perforated Return Panels** are for use as an economical ductless return or exhaust grille in exposed grid T-Bar ceiling systems. Once installed, the appearance matches that of the **4320/4325 (CB, F and M) Series Supply Diffusers**.

### FEATURES:

- Perforated face has 3/16" (5) dia. holes on staggered 1/4" (6) centers.
- 51% free area.

- Edges of panel are turned up for strength.

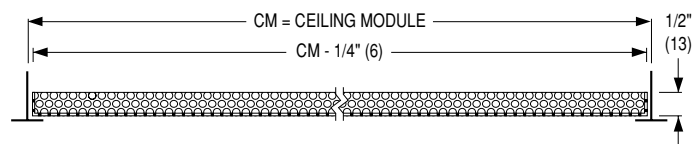
**Material:** Heavy gauge corrosion-resistant steel or aluminum.

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

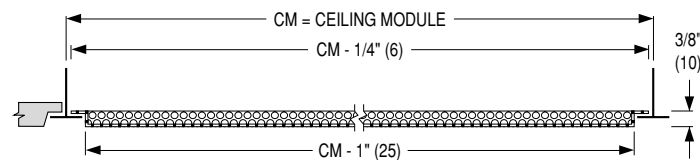
### Available Ceiling Module Sizes

| Ceiling Module CM         |                     |
|---------------------------|---------------------|
| Imperial Modules (inches) | Metric Modules (mm) |
| 12 x 12                   | 300 x 300           |
| 16 x 16                   | 400 x 400           |
| 20 x 20                   | 500 x 500           |
| 24 x 12                   | 600 x 300           |
| 24 x 24                   | 600 x 600           |
| 48 x 24                   | 1200 x 600          |

### Model 4302 and 4302A Lay-in T-Bar



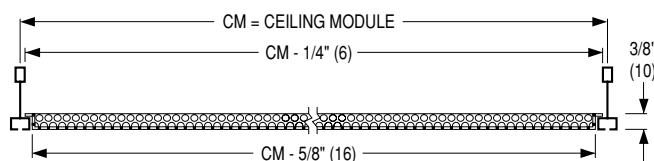
### Model 4302-DF Drop Face or TL Tegular Lay-in T-Bar



### Available Ceiling Module Sizes

| Ceiling Module CM         |                     |
|---------------------------|---------------------|
| Imperial Modules (inches) | Metric Modules (mm) |
| 20 x 20                   | 500 x 500           |
| 24 x 24                   | 600 x 600           |

### Model 4302-F Fineline® Type Ceilings





## HOW TO SPECIFY OR TO ORDER

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

### Perforated Return Panels – Model 4302

4302 - 24 x 24 - AW

#### MODEL

|            |              |         |
|------------|--------------|---------|
| - Steel    | Lay-in T-Bar | 4302    |
|            | Drop Face    | 4302-DF |
|            | Fineline®    | 4302-F  |
| - Aluminum | Lay-in T-Bar | 4302A   |

#### FINISH

|                             |    |
|-----------------------------|----|
| - Appliance White (default) | AW |
| - Special                   | SP |

#### CEILING MODULE

Imperial (inches)    Metric (mm)

|           |            |
|-----------|------------|
| - 12 x 12 | 300 x 300  |
| - 16 x 16 | 400 x 400  |
| - 20 x 20 | 500 x 500  |
| - 24 x 12 | 600 x 300  |
| - 24 x 24 | 600 x 600  |
| - 48 x 24 | 1200 x 600 |

D

CEILING DIFFUSERS

#### Note:

1. Consult individual models as to limitations and availability of ceiling module size combinations.

#### SUGGESTED SPECIFICATION:

##### Model 4302, 4302A – Flush Face

Furnish and install **Nailor Model** (select one) **4302** (corrosion-resistant steel) or **4302A** (aluminum) **Perforated Return Air Panels** of the sizes and capacities as shown on the plans and air distribution schedules. The perforated panel shall have 3/16" (5) dia. holes on 1/4" (6) staggered centers, providing 51% free area. The edge of the panel shall be turned up a 1/2" (13) for strength. The finish shall be AW Appliance White baked enamel (optional finishes are available).

The manufacturer shall provide published performance data for the diffuser, which shall be tested in accordance with ANSI/ASHRAE Standard 70 – 1991.

##### Model 4302-DF – Drop Face

Furnish and install **Nailor Model 4302-DF Perforated Drop Face Return Air Panels** of the sizes and capacities as shown on the plans and air distribution schedules. The corrosion-resistant steel perforated panel shall have 3/16" (5) dia. holes on 1/4" (6) staggered centers, providing 51% free area. The face of the panel shall extend below the ceiling line. The finish shall be AW Appliance White baked enamel (optional finishes are available).

The manufacturer shall provide published performance data for the diffuser, which shall be tested in accordance with ANSI/ASHRAE Standard 70 – 1991.

##### Model 4302-F – Fineline®

Furnish and install **Nailor Model 4302-F Perforated Fineline® Return Air Panels** of the sizes and capacities as shown on the plans and air distribution schedules. The corrosion-resistant steel perforated panel shall have 3/16" (5) dia. holes on 1/4" (6) staggered centers, providing 51% free area. The panel shall incorporate a corrosion-resistant steel frame to suit Fineline® type ceilings. The finish shall be AW Appliance White baked enamel (optional finishes are available).

The manufacturer shall provide published performance data for the diffuser, which shall be tested in accordance with ANSI/ASHRAE Standard 70 – 1991.

## Performance Data

### Model 4302, 4302-DF, 4302-F, 4302A • Return Panel

| Ceiling Module | Neck Size | Neck Velocity, FPM | 200  | 300  | 400  | 500  | 600  | 700  | 800  | 900  | 1000 |
|----------------|-----------|--------------------|------|------|------|------|------|------|------|------|------|
|                |           | Negative SP        | .013 | .029 | .051 | .080 | .115 | .157 | .205 | .259 | .320 |
|                |           | VP                 | .002 | .006 | .010 | .016 | .023 | .031 | .040 | .050 | .063 |
| 12 x 12        | N/A       | Airflow, CFM       | 200  | 300  | 400  | 500  | 600  | 700  | 800  | 900  | 1000 |
|                |           | NC                 | —    | —    | 27   | 34   | 40   | 45   | 49   | 52   | 57   |
| 20 x 20        | N/A       | Airflow, CFM       | 556  | 833  | 1111 | 1389 | 1667 | 1944 | 2222 | 2500 | 2778 |
|                |           | NC                 | —    | —    | 24   | 30   | 37   | 42   | 46   | 49   | 54   |
| 24 x 12        | N/A       | Airflow, CFM       | 400  | 600  | 800  | 1000 | 1200 | 1400 | 1600 | 1800 | 2000 |
|                |           | NC                 | —    | 17   | 27   | 32   | 39   | 44   | 48   | 52   | 56   |
| 24 x 24        | N/A       | Airflow, CFM       | 800  | 1200 | 1600 | 2000 | 2400 | 2800 | 3200 | 3600 | 4000 |
|                |           | NC                 | —    | 16   | 24   | 31   | 37   | 41   | 45   | 48   | 53   |
| 48 x 24        | N/A       | Airflow, CFM       | 1600 | 2400 | 3200 | 4000 | 4800 | 5600 | 6400 | 7200 | 8000 |
|                |           | NC                 | —    | 18   | 27   | 33   | 39   | 44   | 48   | 51   | 56   |

**CFM** - cubic feet per minute

**FPM** - feet per minute velocity

**VP** - velocity pressure - inches w.g.

**SP** - static pressure - inches w.g.

**NC** - Noise Criteria (values) based on 10 dB room absorption, re 10<sup>-12</sup> watts.

#### Performance Notes:

1. Data derived from tests conducted in accordance with ANSI/ASHRAE Standard 70 – 1991.

**D**

**CEILING DIFFUSERS**

## PERFORATED RETURN AIR DIFFUSERS

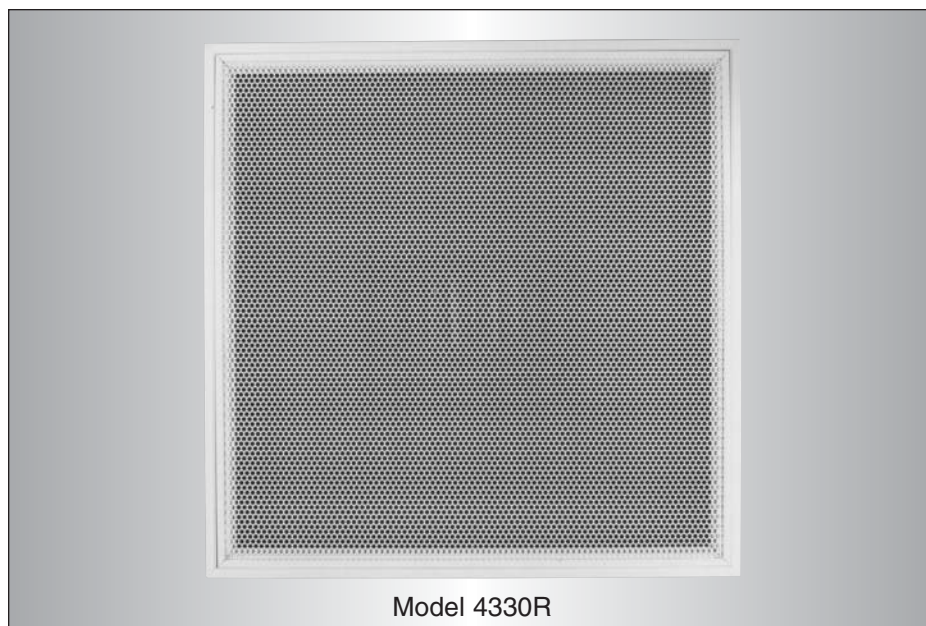
- MATCH AND COMPLIMENT SUPPLY MODELS
- PREMIUM ARCHITECTURAL QUALITY

### Steel Face Model:

**4330R Flush Face**

### Aluminum Face Model:

**4330RA Flush Face**



Model 4330R

The **Nailor 4330R Series Perforated Face** return air models are designed to match supply air models **4330** and **4330CB** in appearance and construction detail, except that the air pattern controllers are not required and are omitted.

The **4330R Series** is offered in two versions. One for ducted return applications which features the same backpan as the supply air models with a neck for connection to flexible or rigid round duct or square duct. The other version features a dedicated frame assembly which has a neck that is 2" (51) less than the ceiling module size. This unit maximizes free area and may be used for ducted or ductless return air applications.

### FEATURES:

- Round or square necks available.
- Hinged, removable face plate with quick-release spring latches.
- Inlet collar has minimum 1 1/4" (32) depth for easy duct connection.
- Dropping the perforated face gives access to the optional damper.
- Perforated face has 3/16" (5) diameter holes on staggered 1/4" (6) centers, providing 51% free area.

**Material:** Extruded aluminum border and frame, corrosion-resistant steel backpan. Corrosion-resistant steel or aluminum perforated face depending on model selection.

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

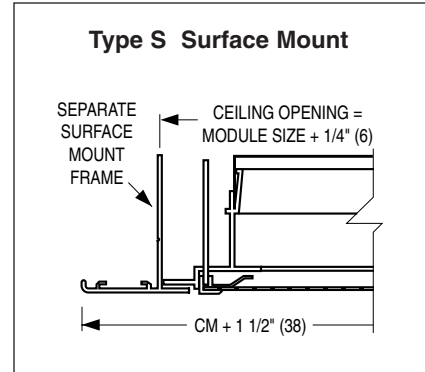
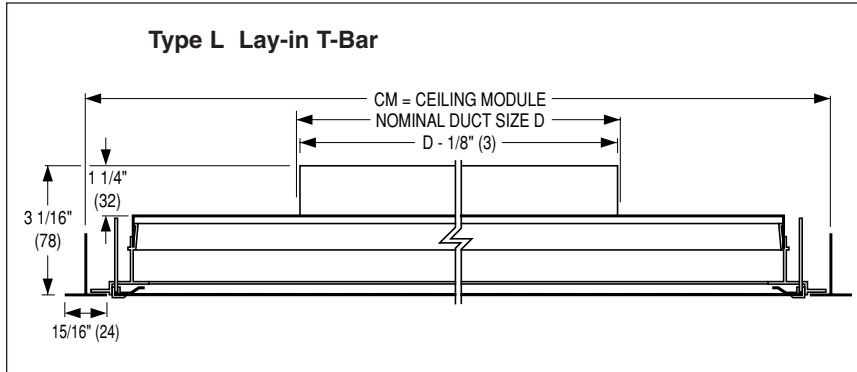
### Available Combinations of Ceiling Module vs. Neck Size

| Ceiling Module CM |                | Nominal Duct Size D      |                                   |                                                                                      |                                                                                                               |
|-------------------|----------------|--------------------------|-----------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|
| Imperial Modules  | Metric Modules | Round Neck               |                                   | Square Neck                                                                          |                                                                                                               |
|                   |                | Imperial Units (in.)     | Metric Units (mm)                 | Imperial Units (in.)                                                                 | Metric Units (mm)                                                                                             |
| 12 x 12           | 300 x 300      | 5, 6, 7, 8               | 127, 152, 178, 203                | 6 x 6, 8 x 8, 10 x 10                                                                | 152 x 152, 203 x 203, 254 x 254                                                                               |
| 24 x 12           | 600 x 300      | 5, 6, 7, 8               | 127, 152, 178, 203                | 6 x 6, 8 x 8, 18 x 6, 22 x 10                                                        | 152 x 152, 203 x 203, 457 x 152, 559 x 254                                                                    |
| 16 x 16           | 400 x 400      | 5, 6, 7, 8, 10           | 127, 152, 178, 203, 254           | 6 x 6, 8 x 8, 10 x 10, 12 x 12, 14 x 14                                              | 152 x 152, 203 x 203, 254 x 254, 305 x 305, 356 x 356                                                         |
| 20 x 20           | 500 x 500      | 5, 6, 7, 8, 10, 12, 14   | 127, 152, 178, 203, 254, 305, 356 | 6 x 6, 8 x 8, 10 x 10, 12 x 12, 14 x 14, 15 x 15, 16 x 16, 18 x 18                   | 152 x 152, 203 x 203, 254 x 254, 305 x 305, 356 x 356, 381 x 381, 406 x 406, 457 x 457                        |
| 24 x 24           | 600 x 600      | 6, 8, 10, 12, 14, 15, 16 | 152, 203, 254, 305, 356, 381, 406 | 6 x 6, 8 x 8, 10 x 10, 12 x 12, 14 x 14, 16 x 16, 18 x 18, 20 x 20, 22 x 22, 46 x 22 | 152 x 152, 203 x 203, 254 x 254, 305 x 305, 356 x 356, 406 x 406, 457 x 457, 508 x 508, 559 x 559, 1168 x 559 |

## Dimensional Data and Frame Types

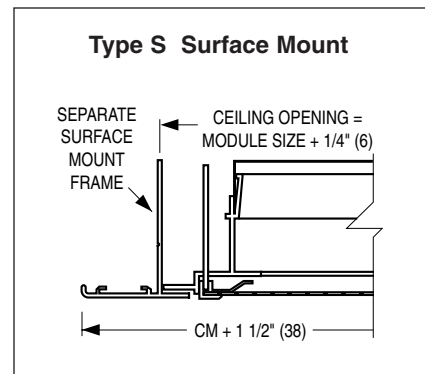
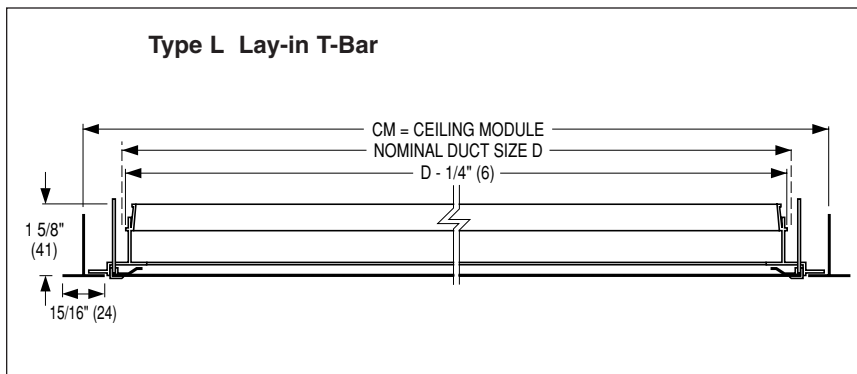
### Models 4330R, 4330RA • Return • Flush Face

All round ducts and square ducts when duct size is less than CM - 2" (51).



### Models 4330R, 4330RA • Return • Flush Face

When duct size = CM - 2" (51).



## HOW TO SPECIFY OR TO ORDER

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

### Premium Perforated Return Ceiling Diffusers – Model Series 4330R

4330R - 22 x 22 - 24 x 24 - L - AW - -

#### MODEL

- Steel Face 4330R
- Aluminum Face 4330RA

#### NECK SIZE (inches)

##### Round

05, 06, 07, 08, 10, 12, 14, 15, 16

##### Square/Rectangular

6 x 6, 8 x 8, 10 x 10, 12 x 12,  
14 x 14, 18 x 6, 15 x 15, 16 x 16,  
18 x 18, 20 x 20, 22 x 10, 22 x 22, 46 x 22

#### CEILING MODULE

##### Imperial (inches) Metric (mm)

- 12 x 12 300 x 300
- 16 x 16 250 x 250
- 20 x 20 500 x 500
- 24 x 12 600 x 300
- 24 x 24 600 x 600
- 48 x 24 1200 x 600

#### ACCESSORIES

- None (default) —
- External Foil Back Insulation EX
- Earthquake Tabs EQT

#### AIR BALANCING DEVICES

##### Round Neck

- Radial Sliding Blade Damper 4250
- Radial Opposed Blade Damper 4275
- Butterfly Damper 4675

##### Square Neck

- Opposed Blade Damper OBD

#### FINISH

- Appliance White (default) AW
- Special Custom Color SP
- AW Face/Black Backpan BA

#### FRAME TYPE

- Lay-in T-Bar L
- Surface Mount S

#### Note:

1. Consult individual models as to limitations and availability of ceiling module and neck size combinations.
2. If more than one accessory is required, list in order.

#### SUGGESTED SPECIFICATION:

Furnish and install **Nailor Model** (select one) **4330R** (corrosion-resistant steel face) or **4330RA** (aluminum face) **Premium Architectural Perforated Return Ceiling Diffusers** of the sizes and capacities as shown on the plans and air distribution schedules. The diffuser shall have a corrosion-resistant steel backpan with a round or square neck, and an extruded aluminum border/frame that encapsulates the perforated face. The perforated panel shall have 3/16" (5) dia. holes on 1/4" (6) staggered centers, providing 51% free area. The face shall include spring latches allowing easy access for cleaning. The finish shall be AW Appliance White baked enamel (optional finishes are available).

The manufacturer shall provide published performance data for the diffuser, which shall be tested in accordance with ANSI/ASHRAE Standard 70 – 1991.

## Performance Data

### Models 4330R, 4330RA • Flush Face • Return Module

| Ceiling Module | Neck Size | Neck Velocity, FPM | 300  | 400  | 500  | 600  | 700  | 800  | 1000 | 1200 | 1400 |
|----------------|-----------|--------------------|------|------|------|------|------|------|------|------|------|
|                |           | Negative SP        | .024 | .042 | .067 | .096 | .130 | .170 | .266 | .383 | .522 |
|                |           | VP                 | .006 | .010 | .016 | .023 | .031 | .040 | .063 | .090 | .123 |
| 12 x 12        | 10 x 10   | Airflow, CFM       | 208  | 277  | 347  | 416  | 485  | 555  | 694  | 832  | 971  |
|                |           | NC                 | —    | 15   | 22   | 28   | 33   | 37   | 44   | 51   | 57   |
| 20 x 20        | 18 x 18   | Airflow, CFM       | 675  | 900  | 1125 | 1350 | 1575 | 1800 | 2250 | 2700 | 3150 |
|                |           | NC                 | —    | 17   | 24   | 30   | 35   | 39   | 46   | 53   | 58   |
| 24 x 12        | 22 x 10   | Airflow, CFM       | 459  | 612  | 765  | 918  | 1071 | 1224 | 1530 | 1836 | 2142 |
|                |           | NC                 | —    | 17   | 23   | 29   | 34   | 39   | 46   | 53   | 58   |
| 24 x 24        | 6" dia.   | Airflow, CFM       | 59   | 78   | 98   | 118  | 137  | 157  | 196  | 235  | 275  |
|                |           | NC                 | —    | —    | —    | 10   | 15   | 19   | 26   | 33   | 38   |
|                | 6 x 6     | Airflow, CFM       | 75   | 100  | 125  | 150  | 175  | 200  | 250  | 300  | 350  |
|                |           | NC                 | —    | —    | —    | 12   | 17   | 21   | 28   | 35   | 40   |
|                | 8" dia.   | Airflow, CFM       | 105  | 140  | 175  | 209  | 244  | 279  | 349  | 419  | 489  |
|                |           | NC                 | —    | —    | —    | 14   | 19   | 23   | 30   | 37   | 42   |
|                | 8 x 8     | Airflow, CFM       | 133  | 178  | 222  | 267  | 311  | 356  | 444  | 533  | 622  |
|                |           | NC                 | —    | —    | —    | 15   | 20   | 24   | 31   | 38   | 43   |
|                | 10" dia.  | Airflow, CFM       | 164  | 218  | 273  | 327  | 382  | 436  | 545  | 654  | 764  |
|                |           | NC                 | —    | —    | 10   | 16   | 21   | 25   | 32   | 39   | 44   |
|                | 10 x 10   | Airflow, CFM       | 208  | 278  | 347  | 417  | 486  | 556  | 694  | 833  | 972  |
|                |           | NC                 | —    | —    | 11   | 17   | 22   | 26   | 33   | 40   | 45   |
|                | 12" dia.  | Airflow, CFM       | 236  | 314  | 393  | 471  | 550  | 628  | 785  | 942  | 1100 |
|                |           | NC                 | —    | —    | 13   | 19   | 24   | 28   | 35   | 42   | 47   |
|                | 12 x 12   | Airflow, CFM       | 300  | 400  | 500  | 600  | 700  | 800  | 900  | 1200 | 1400 |
|                |           | NC                 | —    | —    | 14   | 20   | 25   | 29   | 36   | 43   | 48   |
|                | 14" dia.  | Airflow, CFM       | 321  | 428  | 535  | 641  | 748  | 855  | 1069 | 1283 | 1497 |
|                |           | NC                 | —    | —    | 15   | 21   | 26   | 30   | 37   | 44   | 49   |
|                | 14 x 14   | Airflow, CFM       | 408  | 544  | 681  | 817  | 953  | 1089 | 1361 | 1633 | 1906 |
|                |           | NC                 | —    | 10   | 17   | 23   | 28   | 32   | 39   | 46   | 51   |
|                | 15 x 15   | Airflow, CFM       | 469  | 625  | 781  | 938  | 1094 | 1250 | 1563 | 1875 | 2188 |
|                |           | NC                 | —    | 12   | 19   | 25   | 30   | 34   | 41   | 48   | 53   |
|                | 16" dia.  | Airflow, CFM       | 419  | 559  | 698  | 838  | 977  | 1117 | 1396 | 1676 | 1955 |
|                |           | NC                 | —    | 10   | 17   | 23   | 28   | 32   | 39   | 46   | 51   |
|                | 18 x 18   | Airflow, CFM       | 675  | 900  | 1125 | 1350 | 1575 | 1800 | 2250 | 2700 | 3150 |
|                |           | NC                 | —    | 16   | 23   | 29   | 34   | 38   | 45   | 52   | 57   |
|                | 22 x 22   | Airflow, CFM       | 1007 | 1344 | 1679 | 2015 | 2352 | 2688 | 3359 | 4031 | 4704 |
|                |           | NC                 | —    | 18   | 25   | 31   | 36   | 40   | 47   | 54   | 59   |
| 48 x 24        | 46 x 22   | Airflow, CFM       | 2108 | 2811 | 3514 | 4217 | 4919 | 5622 | 7028 | 8433 | 9839 |
|                |           | NC                 | 11   | 20   | 27   | 34   | 38   | 43   | 50   | 57   | 62   |

**CFM** - cubic feet per minute

**FPM** - feet per minute velocity

**VP** - velocity pressure - inches w.g.

**SP** - static pressure - inches w.g.

**NC** - Noise Criteria (values) based on 10 dB room absorption, re 10<sup>-12</sup> watts.

#### Performance Notes:

1. Data derived from tests conducted in accordance with ANSI/ASHRAE Standard 70 – 1991.

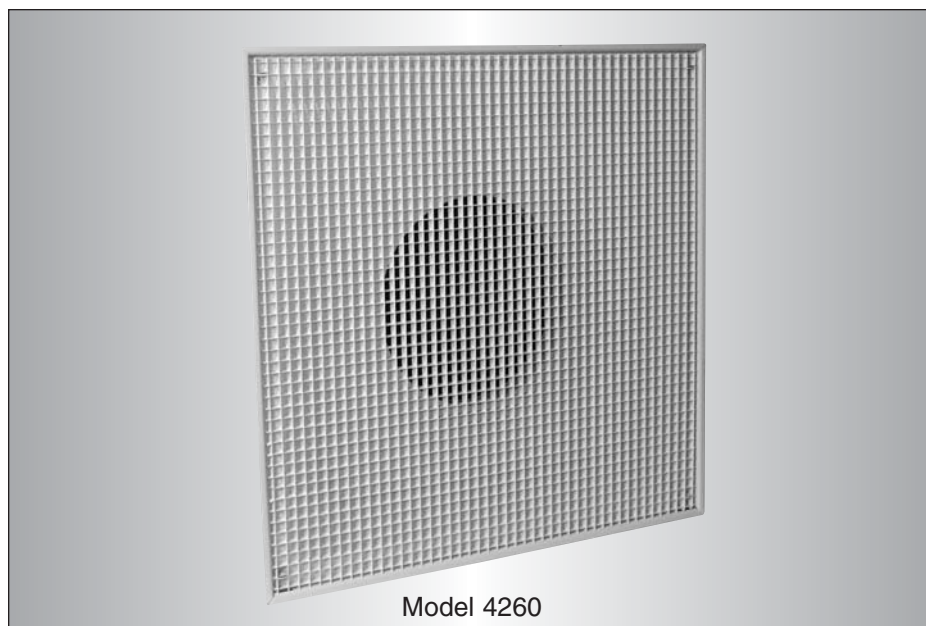


## EGGCRATE CEILING RETURN DIFFUSERS

- HIGH CAPACITY
- SUITABLE FOR FLEXIBLE DUCT CONNECTIONS
- 1/2" x 1/2" x 1/2" (13 x 13 x 13) ALUMINUM GRID CORE

### Models:

**4260** Steel Frame/Backpan  
**4260AA** Aluminum Frame



Model 4260

The **Nailor 4260 Series Eggcrate Return Ceiling Diffuser** has a high free area for high volume capacity with low sound levels and pressure drops. It has an architecturally pleasing design that matches in appearance the grid louvers on parabolic light fixtures.

The **4260 Series** is offered in two versions. One for ducted return applications, for connection to flexible or rigid round duct or square duct. The other version has a dedicated frame assembly which has a neck that is 2" (51) less than the ceiling module size. This unit maximizes free area and may be used for ducted or ductless return air applications.

### FEATURES:

- Full face design for ducted return air applications.
- 1/2" x 1/2" x 1/2" (13 x 13 x 13) aluminum eggcrate.
- Removable core.
- Round or square necks available.
- Inlet collar has 1 1/4" (35) depth for easy duct connection.

**Material:** Corrosion-resistant steel frame/backpan with aluminum grid core or extruded aluminum frame/backpan with aluminum grid core depending on model selection.

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

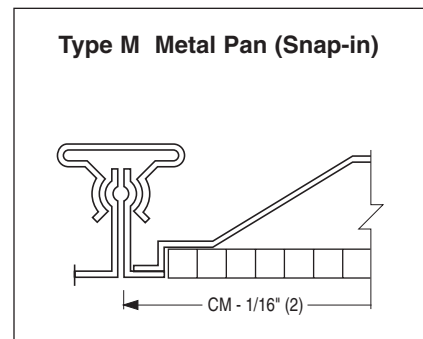
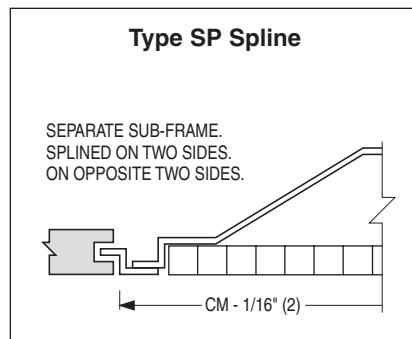
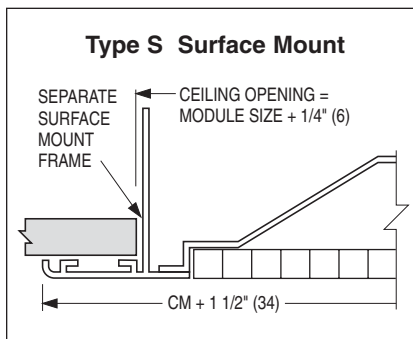
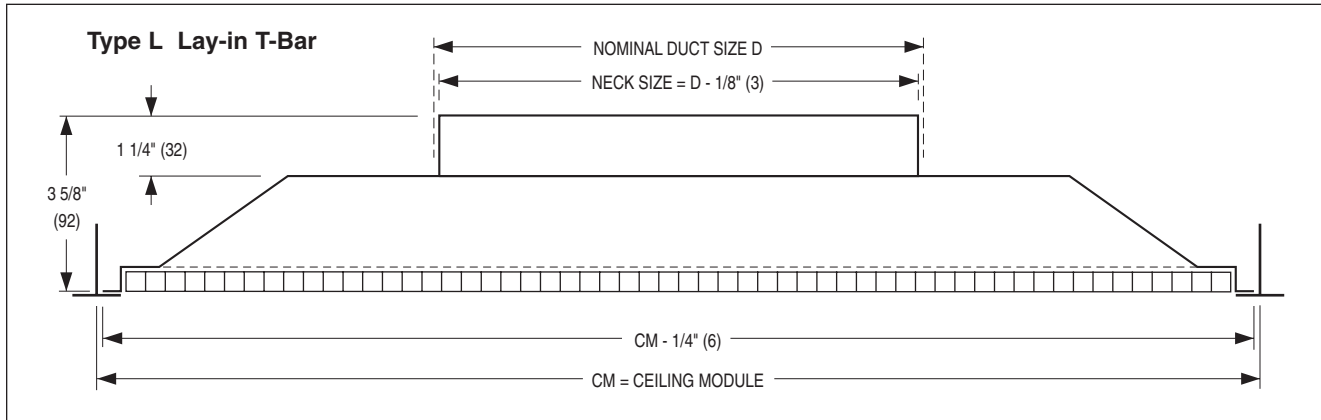
### Available Combinations of Ceiling Module vs. Neck Size

| Ceiling Module CM |                | Nominal Duct Size D          |                                        |                                                                             |                                                                                                   |
|-------------------|----------------|------------------------------|----------------------------------------|-----------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|
| Imperial Modules  | Metric Modules | Round Neck                   |                                        | Square Neck                                                                 |                                                                                                   |
|                   |                | Imperial Units (in.)         | Metric Units (mm)                      | Imperial Units (in.)                                                        | Metric Units (mm)                                                                                 |
| 12 x 12           | 300 x 300      | 6, 8                         | 152, 203                               | 6 x 6, 8 x 8, 10 x 10                                                       | 152 x 152, 203 x 203, 254 x 254                                                                   |
| 24 x 12           | 600 x 300      | 6, 8                         | 152, 203                               | 6 x 6, 8 x 8, 18 x 6, 22 x 10                                               | 152 x 152, 203 x 203, 457 x 152, 550 x 254                                                        |
| 20 x 20           | 500 x 500      | 6, 8, 10, 12, 14             | 152, 203, 254, 305, 356                | 6 x 6, 8 x 8, 10 x 10, 18 x 18                                              | 152 x 152, 203 x 203, 254 x 254, 450 x 450                                                        |
| 24 x 24           | 600 x 600      | 6, 8, 10, 12, 14, 15, 16, 18 | 152, 203, 254, 305, 356, 381, 406, 457 | 6 x 6, 8 x 8, 10 x 10, 12 x 12, 14 x 14, 15 x 15, 16 x 16, 18 x 18, 22 x 22 | 152 x 152, 203 x 203, 254 x 254, 305 x 305, 356 x 356, 381 x 381, 406 x 406, 457 x 457, 559 x 559 |
| 48 x 24           | 1200 x 600     | —                            | —                                      | 46 x 22                                                                     | 1150 x 550                                                                                        |

## Dimensional Data and Frame Types

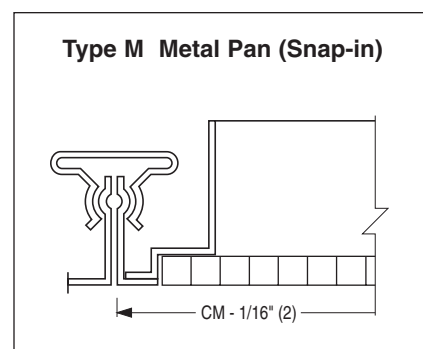
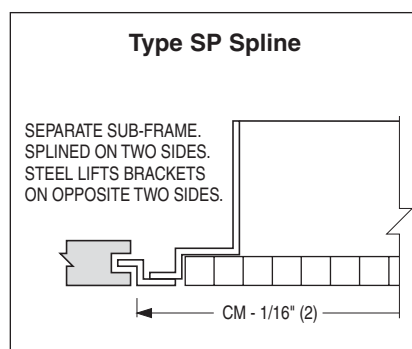
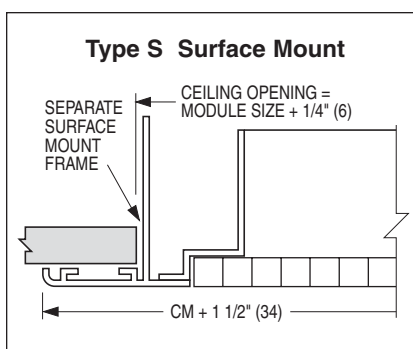
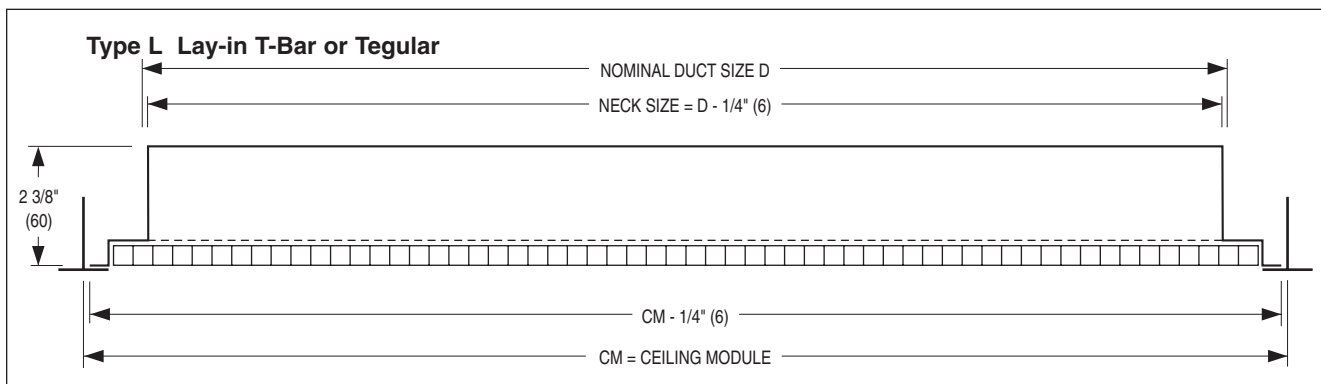
### Models 4260, 4260AA

All round ducts and square ducts when duct size is less than CM - 2" (51).



### Models 4260, 4260AA

When duct size = CM - 2" (51).



## HOW TO SPECIFY OR TO ORDER

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

### Eggcrate Return Ceiling Diffusers – Models 4260 and 4260AA

4260 - 08 - 24 x 24 - L - AW - -

#### MODEL

- Steel Frame/Backpan 4260
- Aluminum 4260AA

#### NECK SIZE (inches)

##### Round

06, 08, 10, 12, 14, 15, 16, 18

##### Square

6 x 6, 8 x 8, 10 x 10, 12 x 12,  
14 x 14, 15 x 15, 16 x 16, 18 x 6,  
18 x 18, 22 x 22, 46 x 22

#### CEILING MODULE

##### Imperial (inches) Metric (mm)

- 12 x 12 300 x 300
- 20 x 20 500 x 500
- 24 x 12 600 x 300
- 24 x 24 600 x 600
- 48 x 24 1200 x 600

#### ACCESSORIES

- None (default) —
- Earthquake Tabs EQT

#### AIR BALANCING DEVICES

##### Round Neck

- Radial Sliding Blade Damper 4250
- Radial Opposed Blade Damper 4275
- Butterfly Damper 4675

##### Square Neck

- Opposed Blade Damper OBD

#### FINISH

- Appliance White (default) AW
- Special Custom Color SP
- AW Face/Black Backpan BA

#### FRAME TYPE

- Lay-in T-Bar L
- Surface Mount S
- Spline SP
- Metal Pan Snap-in M

#### Note:

1. Consult individual models as to limitations and availability of ceiling module and neck size combinations.

#### SUGGESTED SPECIFICATION:

Furnish and install **Nailor Model** (select one) **4260** (corrosion-resistant steel frame/backpan) or **4260AA** (aluminum frame/backpan) **Eggcrate Return Ceiling Diffusers** of the sizes and capacities as shown on the plans and air distribution schedules. The diffuser shall have a removable aluminum grid core that is 1/2" x 1/2" x 1/2" (13 x 13 x 13) and extends the full face of the diffuser. The finish shall be AW Appliance White baked enamel (optional finishes are available).

The manufacturer shall provide published performance data for the diffuser, which shall be tested in accordance with ANSI/ASHRAE Standard 70 – 1991.

## Performance Data

### Models 4260, 4260AA • Full Face • Round and Square Neck

| Nominal Neck Size | Neck Velocity, fpm   | 300  | 400  | 500  | 600  | 700  | 800  | 900  | 1000 | 1200 | 1400 |
|-------------------|----------------------|------|------|------|------|------|------|------|------|------|------|
|                   | Velocity Pressure    | .006 | .010 | .016 | .023 | .031 | .040 | .051 | .063 | .090 | .122 |
| 6" Dia.           | Airflow, cfm         | 59   | 78   | 98   | 118  | 137  | 157  | 176  | 196  | 235  | 274  |
|                   | Neg. Static Pressure | .011 | .019 | .029 | .042 | .056 | .073 | .092 | .113 | .162 | .218 |
|                   | NC                   | —    | —    | —    | —    | —    | —    | —    | 16   | 20   | 29   |
| 6" x 6"           | Airflow, cfm         | 75   | 100  | 125  | 150  | 175  | 200  | 225  | 250  | 300  | 350  |
|                   | Neg. Static Pressure | .011 | .018 | .029 | .041 | .055 | .072 | .091 | .111 | .160 | .217 |
|                   | NC                   | —    | —    | —    | —    | —    | —    | 16   | 19   | 23   | 32   |
| 8" Dia.           | Airflow, cfm         | 105  | 140  | 175  | 209  | 244  | 279  | 314  | 349  | 419  | 489  |
|                   | Neg. Static Pressure | .011 | .019 | .030 | .042 | .057 | .074 | .092 | .113 | .163 | .218 |
|                   | NC                   | —    | —    | —    | —    | —    | 15   | 18   | 21   | 25   | 34   |
| 8" x 8"           | Airflow, cfm         | 133  | 178  | 222  | 267  | 311  | 356  | 400  | 444  | 533  | 622  |
|                   | Neg. Static Pressure | .011 | .018 | .029 | .042 | .057 | .074 | .093 | .115 | .164 | .223 |
|                   | NC                   | —    | —    | —    | —    | —    | 16   | 19   | 22   | 26   | 35   |
| 10" Dia.          | Airflow, cfm         | 164  | 218  | 273  | 327  | 382  | 436  | 491  | 545  | 654  | 763  |
|                   | Neg. Static Pressure | .011 | .020 | .031 | .044 | .058 | .076 | .095 | .118 | .165 | .226 |
|                   | NC                   | —    | —    | —    | —    | 15   | 19   | 22   | 26   | 32   | 38   |
| 10" x 10"         | Airflow, cfm         | 208  | 278  | 347  | 416  | 486  | 555  | 625  | 694  | 833  | 972  |
|                   | Neg. Static Pressure | .011 | .019 | .030 | .043 | .058 | .076 | .094 | .119 | .169 | .228 |
|                   | NC                   | —    | —    | —    | —    | 16   | 20   | 23   | 27   | 33   | 39   |
| 12" Dia.          | Airflow, cfm         | 236  | 314  | 393  | 471  | 550  | 628  | 707  | 785  | 942  | 1100 |
|                   | Neg. Static Pressure | .011 | .019 | .030 | .043 | .058 | .076 | .096 | .118 | .170 | .232 |
|                   | NC                   | —    | —    | —    | —    | 18   | 22   | 25   | 28   | 34   | 41   |
| 12" x 12"         | Airflow, cfm         | 300  | 400  | 500  | 600  | 700  | 800  | 900  | 1000 | 1200 | 1400 |
|                   | Neg. Static Pressure | .011 | .020 | .031 | .045 | .062 | .080 | .100 | .124 | .174 | .239 |
|                   | NC                   | —    | —    | —    | 15   | 19   | 23   | 26   | 29   | 35   | 42   |
| 14" Dia.          | Airflow, cfm         | 321  | 428  | 535  | 641  | 748  | 855  | 962  | 1069 | 1282 | 1497 |
|                   | Neg. Static Pressure | .011 | .020 | .031 | .044 | .060 | .079 | .100 | .123 | .177 | .241 |
|                   | NC                   | —    | —    | —    | 16   | 20   | 24   | 27   | 30   | 36   | 43   |
| 14" x 14"         | Airflow, cfm         | 408  | 544  | 681  | 817  | 953  | 1089 | 1225 | 1361 | 1633 | 1905 |
|                   | Neg. Static Pressure | .011 | .020 | .032 | .046 | .063 | .082 | .103 | .128 | .184 | .250 |
|                   | NC                   | —    | —    | —    | 17   | 21   | 26   | 29   | 32   | 38   | 45   |
| 16" Dia.          | Airflow, cfm         | 419  | 558  | 698  | 838  | 977  | 1117 | 1256 | 1396 | 1675 | 1954 |
|                   | Neg. Static Pressure | .012 | .021 | .032 | .046 | .063 | .082 | .104 | .129 | .185 | .252 |
|                   | NC                   | —    | —    | —    | 17   | 21   | 25   | 29   | 32   | 38   | 45   |
| 16" x 16"         | Airflow, cfm         | 533  | 711  | 889  | 1067 | 1245 | 1422 | 1600 | 1778 | 2134 | 2489 |
|                   | Neg. Static Pressure | .012 | .021 | .034 | .048 | .066 | .086 | .109 | .134 | .193 | .263 |
|                   | NC                   | —    | —    | 15   | 20   | 24   | 28   | 31   | 34   | 40   | 47   |
| 18" Dia.          | Airflow, cfm         | 530  | 707  | 884  | 1060 | 1237 | 1414 | 1590 | 1767 | 2120 | 2474 |
|                   | Neg. Static Pressure | .012 | .021 | .033 | .048 | .066 | .086 | .108 | .134 | .193 | .262 |
|                   | NC                   | —    | —    | 15   | 20   | 24   | 28   | 31   | 34   | 40   | 47   |
| 18" x 18"         | Airflow, cfm         | 675  | 900  | 1125 | 1350 | 1575 | 1800 | 2025 | 2250 | 2700 | 3150 |
|                   | Neg. Static Pressure | .013 | .023 | .035 | .051 | .070 | .091 | .115 | .142 | .204 | .278 |
|                   | NC                   | —    | —    | 17   | 22   | 27   | 32   | 35   | 38   | 45   | 51   |
| 22" x 22"         | Airflow, cfm         | 1008 | 1344 | 1681 | 2017 | 2353 | 2689 | 3025 | 3361 | 4033 | 4706 |
|                   | Neg. Static Pressure | .014 | .025 | .040 | .057 | .078 | .102 | .129 | .159 | .229 | .312 |
|                   | NC                   | —    | —    | 19   | 24   | 29   | 34   | 37   | 40   | 47   | 53   |

#### Performance Notes:

1. All pressures are in inches w.g..
2. Neck Velocity is given in feet per minute (fpm).  
Airflow is given in cubic feet per minute (cfm).

3. NC (Noise Criteria) values are based on 10 dB room absorption, re  $10^{-12}$  watts. Dash (-) in spaces indicates an NC level of less than 15.

4. Data derived from tests conducted in accordance with ANSI/ASHRAE Standard 70 – 1991.

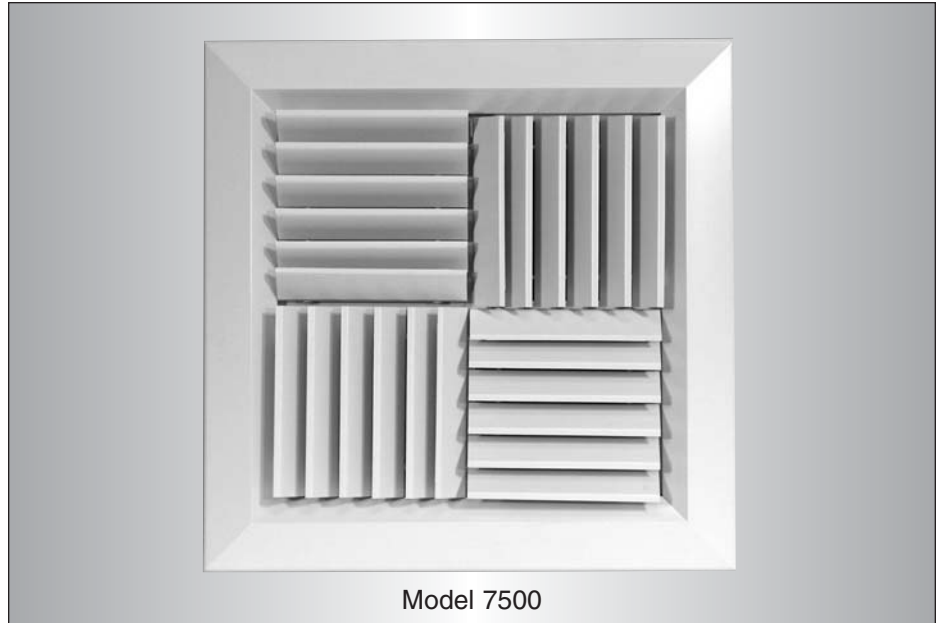
## SQUARE MODULAR CORE DIFFUSERS

- 1, 2, 3 OR 4-WAY ADJUSTABLE DISCHARGE PATTERN

### Steel Model:

**7500**

- Suffix '-O' adds a steel opposed blade damper



The **Nailor 7500 Series Diffusers** have been specially designed to provide a versatile 'modular core' product which is available in a comprehensive range of sizes and air capacities, providing optimum simplicity and flexibility for field adjustment of the discharge air pattern. They maintain a horizontal ceiling pattern from maximum to minimum flow and make an excellent choice for use in variable air volume systems.

The **7500 Series** features four individual spring-loaded 'modular' pattern controllers mounted in the neck. They can be adjusted before or after installation, to provide a 1, 2, 3 or 4-way discharge pattern by simply rotating one or more of the pattern controllers which takes only a few seconds.

### FEATURES:

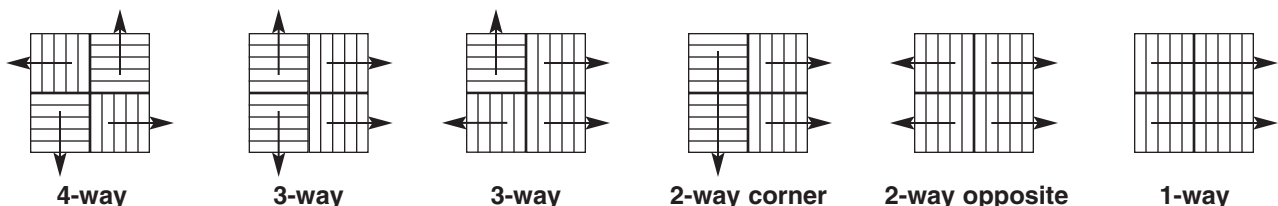
- Square neck is standard.
- Round transition adaptors are available (SR option).
- Each diffuser features four individually adjustable 'spring-loaded' modular cores.
- Simple adjustment for a 1, 2, 3 or 4-way horizontal discharge pattern without the use of tools.

- Inlet collar has 1 1/2" (38) depth for easy duct connection.
- A wide variety of frame styles to suit most ceiling applications.
- Optional extended panels to suit modular T-Bar ceiling systems.
- Optional opposed blade damper with screwdriver slot operator is adjustable from the diffuser face by removing a modular core.

**Material:** Corrosion-resistant steel blades and frame.

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

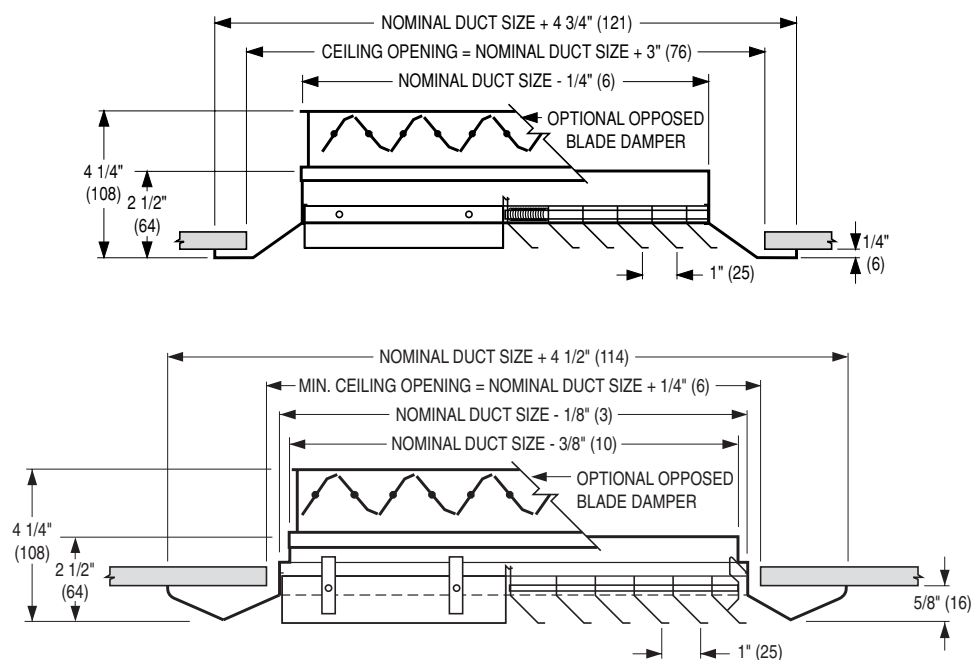
## Modular Core Adjustments



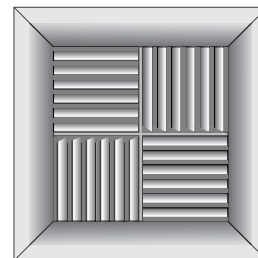
All diffusers are shipped with the standard 4-way pattern, but the air pattern can be simply field adjusted by rotating the spring loaded pattern controllers.

## Dimensional Data and Frame Types

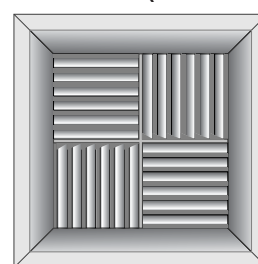
### Model Series 7500



**Type S - Surface Mount Frame**



**Type BS - Beveled Surface Mount Frame (Low Profile)**



### Available Duct Sizes

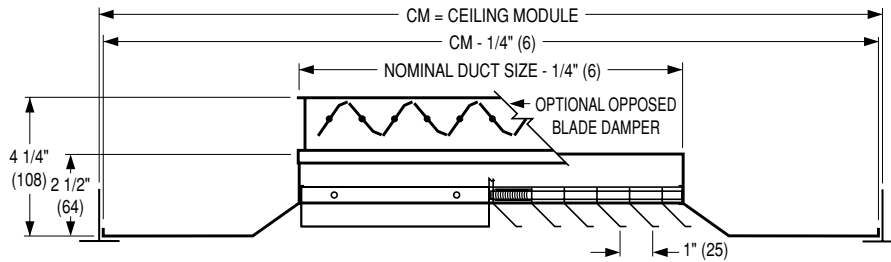
| Frame Types S and BS |                     |                     |
|----------------------|---------------------|---------------------|
| 6 x 6 (152 x 152)    | 12 x 12 (305 x 305) | 18 x 18 (457 x 457) |
| 8 x 8 (203 x 203)    | 14 x 14 (356 x 356) | 20 x 20 (508 x 508) |
| 9 x 9 (229 x 229)    | 15 x 15 (381 x 381) | 22 x 22 (559 x 559) |
| 10 x 10 (254 x 254)  | 16 x 16 (406 x 406) | 24 x 24 (610 x 610) |

**D**

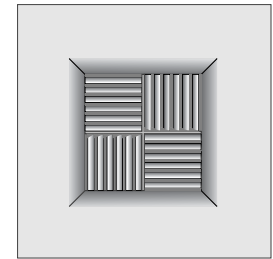
**CEILING DIFFUSERS**

## Dimensional Data and Frame Types

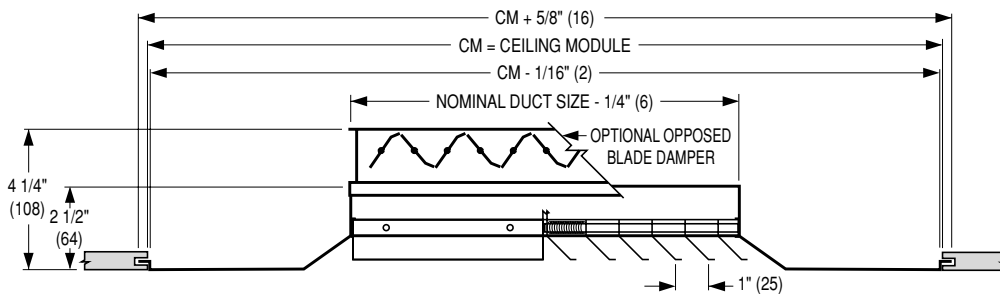
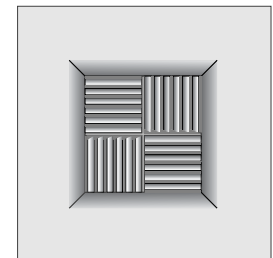
### Model Series 7500



**Type L - Lay-In  
T-Bar Frame**

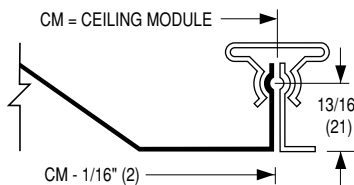


**Type SP - Spline Frame**

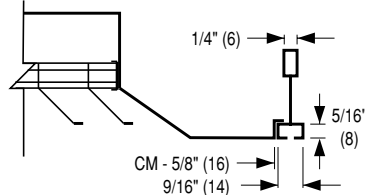


SPLINE TYPE DIFFUSER FOR ONE-DIRECTIONAL EXPOSED T-BAR LAY-IN GRID OR FOR CONCEALED T-BAR GRID.  
(SPLINES ON TWO OPPOSITE SIDES. STEEL LIFT BRACKETS ON THE OTHER TWO SIDES).

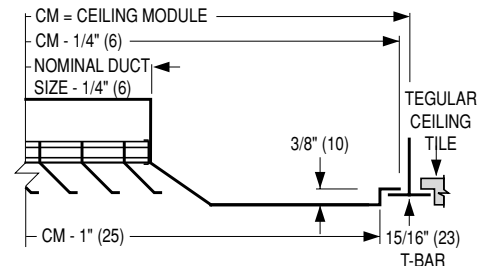
**Type M Metal Pan (Snap-in)**



**Type F Fineline®**



**Type TL Tegular**



### Extended Panel Diffusers

#### Frame Types L, SP, TL, F and M

If the ceiling module is more than 3" (76) larger than the neck size of the diffuser in either or both dimensions, a module-sized extended panel will be added.

See the table (below) for the maximum duct size for each module size.

| Ceiling Module Size CM – Frame Types L, SP, M, TL and F |                        |                                                                                                                                                                                     |
|---------------------------------------------------------|------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Imperial Modules<br>(inches)                            | Metric Modules<br>(mm) | Available Duct Sizes                                                                                                                                                                |
| 12 x 12, 24 x 12                                        | 300 x 300, 600 x 300   | 6 x 6 (152 x 152) 8 x 8 (203 x 203) 9 x 9 (229 x 229)                                                                                                                               |
| 20 x 20                                                 | 500 x 500              | 6 x 6 (152 x 152) 10 x 10 (254 x 254) 15 x 15 (381 x 381)<br>8 x 8 (203 x 203) 12 x 12 (305 x 305)<br>9 x 9 (229 x 229) 14 x 14 (356 x 356)                                         |
| 24 x 24                                                 | 600 x 600              | 6 x 6 (152 x 152) 10 x 10 (254 x 254) 15 x 15 (381 x 381)<br>8 x 8 (203 x 203) 12 x 12 (305 x 305) 16 x 16 (406 x 406)<br>9 x 9 (229 x 229) 14 x 14 (356 x 356) 18 x 18 (457 x 457) |



## HOW TO SPECIFY OR TO ORDER

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

### Modular Core Ceiling Diffusers – Model Series 7500

**7500 - O - 9 x 9 - 24 x 24 - L - AW - -**

**MODEL** \_\_\_\_\_

- Steel 7500

**DAMPER** \_\_\_\_\_

- No Damper (default) —

- Opposed Blade (steel) O

**NECK SIZE (inches)** \_\_\_\_\_

6 x 6, 8 x 8, 9 x 9, 10 x 10  
12 x 12, 14 x 14, 15 x 15,  
16 x 16, 18 x 18, 20 x 20,  
22 x 22, 24 x 24

**CEILING MODULE SIZE** \_\_\_\_\_

**(Frame Types L, SP, M, TL and F)**

| Imperial (in.) | Metric (mm) |
|----------------|-------------|
| 12 x 12        | 300 x 300   |
| 20 x 20        | 500 x 500   |
| 24 x 12        | 600 x 300   |
| 24 x 24        | 600 x 600   |

**ACCESSORIES**

- None (default) —

- Earthquake Tabs EQT

- Square to Round Transition Collar (04 thru 16 specify) SR

**AIR BALANCING DEVICES**

**Square Neck**

- Equalizing Grid EGL

- Damper/Equalizing Grid DEGL

**Round Neck**

- Radial Sliding Blade Damper 4250

- Radial Opposed Blade Damper 4275

- Butterfly Damper 4675

- Equalizing Grid EGR

- Damper/Equalizing Grid DEGR

**FINISH**

- Appliance White (default) AW

- Aluminum AL

- Special Custom Color SP

**FRAME TYPE**

- Surface Mount S

- Bevelled Surface Mount BS

- Lay-in T-Bar L

- Spline SP

- Metal Pan Snap-in M

- Fineline® F

- Tegular (Drop Face) TL

**D**

**CEILING DIFFUSERS**

#### Notes:

1. Consult individual models as to limitations of panel and neck size combinations.
2. If more than one accessory is required, list in order.

#### SUGGESTED SPECIFICATION:

Furnish and install **Nailor Model Series 7500 Modular Core Ceiling Diffusers** of the sizes and capacities as shown on the plans and air distribution schedules. The diffuser shall have a heavy gauge, corrosion-resistant steel frame and core. The modular deflectors shall consist of four square, individually adjustable pattern deflectors, factory installed in a 4-way pattern, that are easily field rotated to provide throws in a 1, 2, or 3-way pattern. The diffuser shall have a square duct connection collar that is an integral part of the frame assembly and not be less than 1 1/2" (38) high. The finish shall be AW Appliance White baked enamel (optional finishes are available).

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

The manufacturer shall provide published performance data for the diffuser, which shall be tested in accordance with ANSI/ASHRAE Standard 70 – 1991.

## Performance Data

### Models 7500 • Square Neck

| Nominal Neck Size Inches | Neck Velocity, FPM | 200   | 300      | 400      | 500      | 600      | 700      | 800      | 900      | 1000     |
|--------------------------|--------------------|-------|----------|----------|----------|----------|----------|----------|----------|----------|
|                          | Velocity Pressure  | .003  | .006     | .010     | .016     | .022     | .031     | .040     | .051     | .062     |
|                          | TP                 | .015  | .032     | .058     | .090     | .130     | .177     | .231     | .293     | .362     |
| 6 x 6                    | Airflow, CFM       | 50    | 75       | 100      | 125      | 150      | 175      | 200      | 225      | 250      |
|                          | NC                 | —     | —        | 11       | 17       | 22       | 26       | 29       | 32       | 35       |
|                          | T                  | 4-Way | 1-1-1    | 1-1-2    | 1-2-3    | 1-2-3    | 1-2-4    | 2-3-4    | 2-3-5    | 2-3-5    |
|                          |                    | 3-Way | 1-1-3    | 1-2-4    | 2-3-5    | 2-4-6    | 3-4-7    | 3-5-7    | 4-5-8    | 4-6-8    |
|                          |                    | 2-Way | 1-1-3    | 1-2-4    | 2-3-5    | 2-4-6    | 3-4-7    | 3-5-7    | 4-5-8    | 4-6-8    |
|                          |                    | 1-Way | 1-2-4    | 2-3-7    | 3-4-8    | 3-5-9    | 4-7-9    | 5-7-10   | 6-8-11   | 7-8-12   |
| 8 x 8                    | Airflow, CFM       | 88    | 133      | 177      | 222      | 266      | 310      | 355      | 399      | 444      |
|                          | NC                 | —     | —        | 14       | 20       | 25       | 29       | 32       | 35       | 38       |
|                          | T                  | 4-Way | 1-2-4    | 2-3-6    | 2-4-8    | 3-5-9    | 4-6-10   | 4-7-11   | 5-8-11   | 6-8-12   |
|                          |                    | 3-Way | 2-3-7    | 3-5-11   | 5-7-13   | 6-9-14   | 7-11-15  | 8-12-17  | 10-13-18 | 11-14-19 |
|                          |                    | 2-Way | 2-3-7    | 3-5-11   | 5-7-13   | 6-9-14   | 7-11-15  | 8-12-17  | 10-13-18 | 11-14-19 |
|                          |                    | 1-Way | 3-5-11   | 5-8-15   | 7-11-18  | 9-13-20  | 11-15-22 | 12-16-24 | 14-18-26 | 15-19-27 |
| 10 x 10                  | Airflow, CFM       | 138   | 208      | 277      | 347      | 416      | 485      | 555      | 624      | 694      |
|                          | NC                 | —     | 13       | 20       | 22       | 27       | 31       | 34       | 37       | 40       |
|                          | T                  | 4-Way | 2-3-7    | 3-5-9    | 4-7-10   | 6-8-11   | 7-9-12   | 8-9-14   | 8-10-14  | 9-11-14  |
|                          |                    | 3-Way | 4-6-12   | 6-10-14  | 9-12-16  | 11-13-18 | 12-14-20 | 13-15-22 | 14-16-23 | 14-19-25 |
|                          |                    | 2-Way | 4-6-12   | 6-10-14  | 9-12-16  | 11-13-18 | 12-14-20 | 13-15-22 | 14-16-23 | 14-17-25 |
|                          |                    | 1-Way | 6-9-16   | 9-14-20  | 13-16-23 | 14-18-26 | 16-20-28 | 17-21-31 | 18-23-33 | 20-24-35 |
| 12 x 12                  | Airflow, CFM       | 200   | 300      | 400      | 500      | 600      | 700      | 800      | 900      | 1000     |
|                          | NC                 | —     | 16       | 23       | 25       | 30       | 34       | 37       | 40       | 43       |
|                          | T                  | 4-Way | 2-4-8    | 4-6-11   | 5-8-12   | 7-10-14  | 8-11-14  | 9-11-15  | 10-12-17 | 11-13-18 |
|                          |                    | 3-Way | 5-8-14   | 8-12-17  | 10-14-20 | 13-15-22 | 14-17-24 | 15-18-26 | 16-20-28 | 17-21-30 |
|                          |                    | 2-Way | 5-8-14   | 8-12-17  | 10-14-20 | 13-15-22 | 14-17-24 | 15-18-26 | 16-20-28 | 17-21-30 |
|                          |                    | 1-Way | 7-11-19  | 11-16-24 | 14-19-28 | 17-22-31 | 19-24-34 | 21-26-37 | 22-28-40 | 24-30-42 |
| 14 x 14                  | Airflow, CFM       | 272   | 408      | 544      | 680      | 816      | 952      | 1088     | 1224     | 1361     |
|                          | NC                 | —     | 18       | 25       | 27       | 32       | 36       | 39       | 42       | 45       |
|                          | T                  | 4-Way | 3-5-10   | 5-7-12   | 6-10-14  | 8-11-15  | 10-12-19 | 11-13-18 | 12-14-19 | 12-14-21 |
|                          |                    | 3-Way | 6-9-16   | 9-14-20  | 12-16-23 | 14-18-26 | 16-20-29 | 17-21-31 | 19-23-33 | 20-25-35 |
|                          |                    | 2-Way | 6-9-16   | 9-14-20  | 12-16-23 | 14-18-26 | 16-20-29 | 17-21-31 | 19-23-33 | 20-25-35 |
|                          |                    | 1-Way | 9-13-23  | 13-19-28 | 17-23-33 | 21-25-37 | 23-28-40 | 25-30-44 | 26-33-47 | 28-35-49 |
| 16 x 16                  | Airflow, CFM       | 355   | 533      | 711      | 889      | 1066     | 1244     | 1422     | 1600     | 1778     |
|                          | NC                 | —     | 20       | 27       | 29       | 34       | 38       | 41       | 44       | 47       |
|                          | T                  | 4-Way | 3-5-11   | 5-8-14   | 7-11-15  | 9-13-17  | 11-14-19 | 12-14-21 | 13-15-23 | 14-17-24 |
|                          |                    | 3-Way | 7-10-18  | 10-15-23 | 14-18-27 | 17-21-30 | 18-23-33 | 20-25-36 | 21-27-38 | 23-28-41 |
|                          |                    | 2-Way | 7-10-18  | 10-15-23 | 14-18-27 | 17-21-30 | 18-23-33 | 20-25-38 | 21-27-38 | 23-28-41 |
|                          |                    | 1-Way | 10-14-26 | 14-22-32 | 20-26-38 | 24-29-42 | 26-32-46 | 28-35-49 | 30-38-53 | 32-40-56 |

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<sup>-12</sup> watts.

#### Performance Notes:

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

2. Data derived from tests conducted in accordance with ANSI/ASHRAE Standard 70 – 1991.

| Neck Size Square in Inches | Ak Factor |
|----------------------------|-----------|
| 6 x 6                      | 0.1134    |
| 8 x 8                      | 0.1932    |
| 9 x 9                      | 0.2551    |
| 10 x 10                    | 0.3024    |
| 12 x 12                    | 0.4526    |
| 14 x 14                    | 0.5883    |
| 15 x 15                    | 0.6804    |
| 16 x 16                    | 0.7728    |

## Performance Data

### Models 7500 • Square Neck

| Nominal Neck Size Inches | Neck Velocity FPM | 200   | 300      | 400      | 500      | 600      | 700      | 800      | 900      | 1000     |
|--------------------------|-------------------|-------|----------|----------|----------|----------|----------|----------|----------|----------|
|                          | Velocity Pressure | .003  | .006     | .010     | .016     | .022     | .031     | .040     | .051     | .062     |
|                          | TP                | .015  | .032     | .058     | .090     | .130     | .177     | .231     | .293     | .362     |
| 18 x 18                  | Airflow, CFM      | 450   | 675      | 900      | 1125     | 1350     | 1575     | 1800     | 2025     | 2250     |
|                          | NC                | —     | 22       | 28       | 30       | 35       | 39       | 42       | 45       | 48       |
|                          | T                 | 4-Way | 4-6-13   | 6-10-15  | 8-13-18  | 11-14-20 | 13-15-22 | 14-16-24 | 14-18-26 | 15-19-27 |
|                          |                   | 3-Way | 8-12-21  | 12-17-26 | 15-21-30 | 19-23-34 | 21-26-37 | 23-28-40 | 24-30-43 | 26-32-46 |
|                          |                   | 2-Way | 8-12-21  | 12-17-26 | 15-21-30 | 19-23-34 | 21-26-37 | 23-28-40 | 24-30-43 | 26-32-46 |
|                          |                   | 1-Way | 11-16-30 | 16-25-37 | 22-30-42 | 27-33-48 | 30-37-51 | 32-40-56 | 34-42-60 | 36-45-63 |
| 20 x 20                  | Airflow, CFM      | 555   | 835      | 1110     | 1390     | 1665     | 1945     | 2220     | 2500     | 2775     |
|                          | NC                | 11    | 24       | 30       | 32       | 37       | 41       | 44       | 47       | 50       |
|                          | T                 | 4-Way | 4-7-14   | 7-11-17  | 9-14-20  | 12-15-22 | 14-17-24 | 15-18-27 | 16-20-29 | 17-21-30 |
|                          |                   | 3-Way | 9-13-23  | 13-19-29 | 17-23-34 | 21-26-38 | 23-29-41 | 25-31-45 | 27-34-48 | 29-36-50 |
|                          |                   | 2-Way | 9-13-23  | 13-19-29 | 17-23-34 | 21-26-38 | 23-29-41 | 25-31-45 | 27-34-48 | 29-36-51 |
|                          |                   | 1-Way | 13-18-33 | 18-28-43 | 25-33-47 | 30-37-52 | 33-41-57 | 36-44-62 | 38-47-67 | 41-49-71 |
| 22 x 22                  | Airflow, CFM      | 675   | 1000     | 1345     | 1680     | 2015     | 2350     | 2690     | 3025     | 3360     |
|                          | NC                | 13    | 26       | 32       | 34       | 39       | 43       | 46       | 49       | 52       |
|                          | T                 | 4-Way | 5-8-15   | 8-12-19  | 10-15-22 | 13-17-25 | 15-19-27 | 16-20-29 | 18-22-31 | 19-23-34 |
|                          |                   | 3-Way | 10-14-26 | 14-21-32 | 19-26-37 | 23-29-42 | 26-32-46 | 28-35-48 | 30-37-52 | 32-39-55 |
|                          |                   | 2-Way | 10-14-26 | 14-21-32 | 19-26-37 | 23-29-42 | 26-32-46 | 28-35-48 | 30-37-52 | 32-39-55 |
|                          |                   | 1-Way | 14-20-36 | 20-31-45 | 28-36-51 | 33-41-58 | 36-45-63 | 39-48-68 | 41-51-73 | 45-54-78 |
| 24 x 24                  | Airflow, CFM      | 800   | 1200     | 1600     | 2000     | 2400     | 2800     | 3200     | 3600     | 4000     |
|                          | NC                | 15    | 28       | 34       | 36       | 41       | 45       | 48       | 51       | 54       |
|                          | T                 | 4-Way | 5-8-16   | 8-13-21  | 11-16-24 | 14-19-27 | 16-21-30 | 18-22-32 | 19-24-35 | 21-26-37 |
|                          |                   | 3-Way | 10-15-28 | 15-23-35 | 20-28-41 | 26-32-45 | 28-35-49 | 31-38-53 | 33-41-57 | 35-43-61 |
|                          |                   | 2-Way | 10-15-28 | 15-23-35 | 20-28-41 | 26-32-45 | 28-35-49 | 31-38-53 | 33-41-57 | 35-43-61 |
|                          |                   | 1-Way | 14-22-40 | 22-34-48 | 30-40-56 | 36-45-63 | 40-48-69 | 43-52-75 | 45-56-79 | 48-60-84 |

**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<sup>-12</sup> watts.

#### Performance Notes:

1. Throws are given at 150, 100 and 50 fpm terminal velocities under isothermal conditions.
2. Data derived from tests conducted in accordance with ANSI/ASHRAE Standard 70 – 1991.

| Neck Size Square in Inches | Ak Factor |
|----------------------------|-----------|
| 18 x 18                    | 0.9541    |
| 20 x 20                    | 1.2096    |
| 22 x 22                    | 1.4636    |
| 24 x 24                    | 1.7304    |

**D**

**CEILING DIFFUSERS**

## CURVED BLADE DIFFUSERS

- 1, 2, 3 OR 4-WAY DISCHARGE PATTERNS AVAILABLE

### Steel Models:

- 61CC 1, 2, 3 or 4-Way
- 61CCD 1 or 2-Way with Rear Directional Vanes

### Aluminum Models:

- 51CC 1, 2, 3 or 4-Way
- 51CCD 1 or 2-Way with Rear Directional Vanes

- Suffix '-O' adds a steel opposed blade damper
- Suffix '-OA' adds an aluminum opposed blade damper (available on aluminum models only)

The **Nailor 61CC and 51CC Series Curved Blade Diffusers** are similar in design and construction to the **Nailor 61C and 51C Series Curved Blade Grilles** with the addition of a modular sized panel to integrate with various types of ceiling systems. Available with the choice of a 1, 2, 3 or 4-way discharge pattern.

They also feature individually adjustable friction pivoted curved blades on 1" (25) centers that positively control the airflow. Blades are adjustable from the face, regulating the angle of discharge from a horizontal through to a full down-blow vertical pattern as required. Blades can also regulate air volume as they are closed off.

Available in a comprehensive range of square duct sizes to suit a large range of air volumes, these diffusers, when adjusted correctly, produce a tight horizontal ceiling pattern and work extremely well in variable air volume applications.

The **Nailor 61CCD and 51CCD Series**, available in a 1 or 2-way discharge pattern are similar to the above but incorporate a set of rear vanes on 3/4" (19) centers that are individually adjustable, thus providing complete directional control and airflow equalization.

### FEATURES:

- Extruded aluminum blades are formed to an engineered curved and streamlined cross-section. Formed with tenons at each end to fit snugly into side margin, friction loaded to firmly hold deflection setting.
- Adjustable angle of discharge from horizontal to vertical.
- Choice of one, two, three or four-way discharge patterns.
- Optional steel or aluminum opposed blade dampers have a screwdriver slot operator accessible through the face of the diffuser.

- A variety of frame/border styles to suit most ceiling systems.
- Available in square neck sizes 6" x 6" (152 x 152) through 21" x 21" (533 x 533) for standard 24" x 24" (600 x 600) ceiling modules.
- For non-listed rectangular sizes, see the **61C and 51C Series** in this catalog and add a module sized extended panel (PL).

**Material:** Extruded aluminum blades with corrosion-resistant steel or aluminum panel construction, depending on model selection.

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

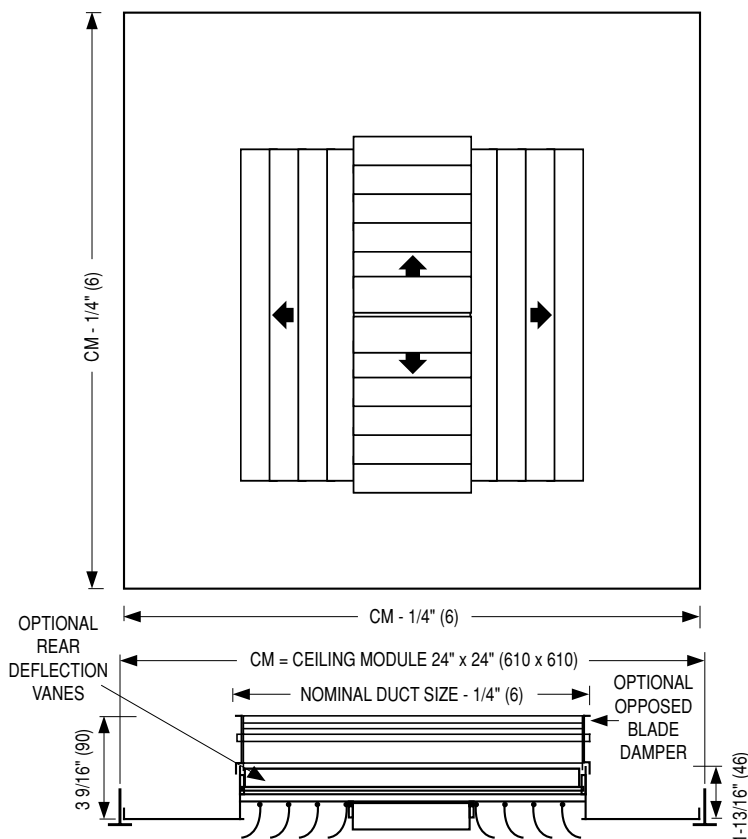


Model 61CC

## Dimensional Data and Frame Types

### Models 61CC and 51CC

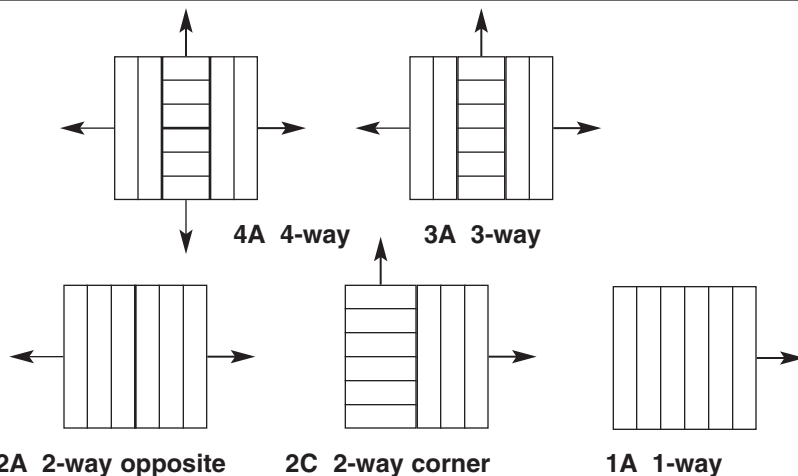
**Type PL Panel Lay-in T-Bar**



**Standard Duct Sizes for 24 x 24 (600 x 600) Ceiling Module**

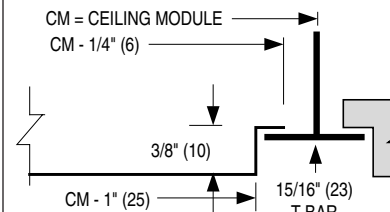
| Imperial Units (inches) |         |         |         | Metric Units (mm) |           |           |           |
|-------------------------|---------|---------|---------|-------------------|-----------|-----------|-----------|
| 6 x 6                   | 10 x 10 | 15 x 15 | 21 x 21 | 152 x 152         | 254 x 254 | 381 x 381 | 553 x 553 |
| 8 x 8                   | 12 x 12 | 16 x 16 |         | 203 x 203         | 305 x 305 | 406 x 406 |           |
| 9 x 9                   | 14 x 14 | 18 x 18 |         | 229 x 229         | 356 x 356 | 457 x 457 |           |

### Available Discharge Patterns:

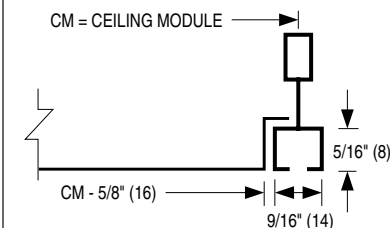


61CC and 51CC Diffusers may be ordered in any of the discharge patterns illustrated above.

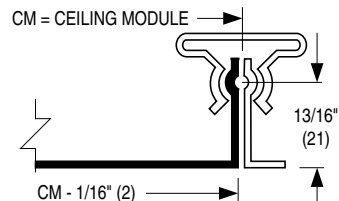
**Type TL Tegular Lay-in**



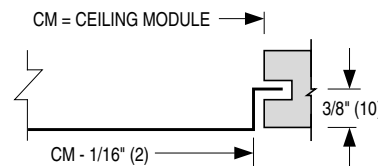
**Type F Fineline®**



**Type M Metal Pan (Snap-in)**



**Type SP Spline**



## HOW TO SPECIFY OR TO ORDER

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

### Curved Blade Ceiling Diffusers – Model Series 51CC and 61CC

51CC - O - 12 x 12 - 24 x 24 - PL - AW - 4A - -

#### MODEL

- Aluminum 51CC
- Aluminum w/Rear Vanes 51CCD
- Steel 61CC
- Steel w/Rear Vanes 61CCD

#### DAMPER

- No Damper (default) —
- Opposed Blade (steel) O
- Opposed Blade (aluminum) OA  
(available on aluminum models only)

#### NECK SIZE (inches)

6 x 6, 8 x 8, 9 x 9, 10 x 10,  
12 x 12, 14 x 14, 15 x 15,  
16 x 16, 18 x 18, 21 x 21

#### CEILING MODULE SIZE

Standard Module

#### Imperial (in.) Metric (mm)

24 x 24 (default) 600 x 600

#### FRAME TYPE

- Panel Lay-in T-Bar (default) PL
- Tegular TL
- Fineline® F
- Metal Pan Snap-in M
- Spline SP

#### ACCESSORIES

- None (default) —
- Earthquake Tabs EQT
- Square to Round Transition Collar (04 thru 20 specify) SR

#### AIR BALANCING DEVICES

##### Square Neck

- Equalizing Grid EGL
- Damper/Equalizing Grid DEGL

##### Round Neck

- Radial Sliding Blade Damper 4250
- Radial Opposed Blade Damper 4275
- Butterfly Damper 4675
- Equalizing Grid EGR
- Damper/Equalizing Grid DEGR

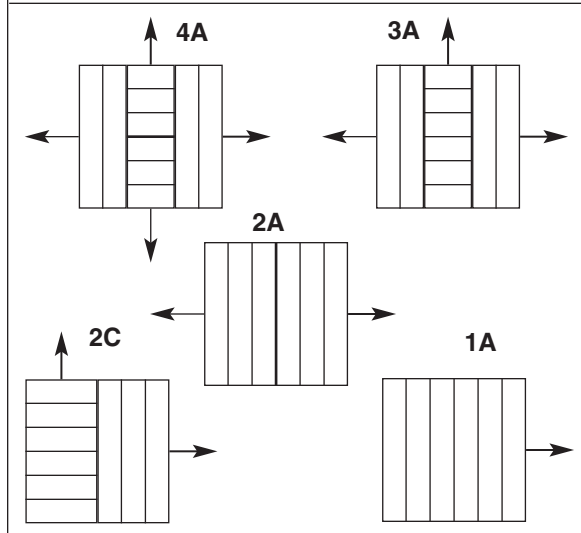
#### BLOW PATTERN

- 4-Way 4A
- 3-Way 3A
- 2-Way Corner 2C
- 2-Way Opposite 2A
- 1-Way 1A

#### FINISH

- Appliance White (default) AW
- Aluminum AL
- Special SP

#### AVAILABLE DISCHARGE PATTERNS



#### Notes:

1. Consult text as to limitations of panel, neck size and core style combinations.
2. If more than one accessory is required, list in order.

## SUGGESTED SPECIFICATION:

### Models 51CC, 51CCD – Aluminum

Furnish and install **Nailor Model** (select one) **51CC** or **51CCD** (with deflector vanes) **Aluminum Curved Blade Supply Diffusers** of the sizes and capacities as shown on the plans and air distribution schedules. The diffuser shall have an aluminum panel type frame that has a square neck and contains an extruded aluminum curved blade pack with individually adjustable blades. The blade pack shall be configured in a 4, 3, 2 or 1-way pattern as specified. The finish shall 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), operable from the face of the diffuser, shall be provided with all units.

The manufacturer shall provide published performance data for the diffuser, which shall be tested in accordance with ANSI/ASHRAE Standard 70 – 1991.

### Models 61CC, 61CCD – Steel

Furnish and install **Nailor Model** (select one) **61CC** or **61CCD** (with deflector vanes) **Steel Curved Blade Supply Diffusers** of the sizes and capacities as shown on the plans and air distribution schedules. The diffuser shall have a corrosion-resistant steel, panel type frame that has a square neck and contains an extruded aluminum curved blade pack with individually adjustable blades. The blade pack shall be configured in a 4, 3, 2 or 1-way pattern as specified. The finish shall be AW Appliance White baked enamel (optional finishes are available).

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

The manufacturer shall provide published performance data for the diffuser, which shall be tested in accordance with ANSI/ASHRAE Standard 70 – 1991.



## Performance Data

Models: 61CC, 61CCD  
51CC, 51CCD

| Core Area, Square Feet | Nominal Duct Size, Inches | Core Velocity, FPM | 100   | 200    | 300     | 400      | 500      | 600      | 700      | 800      | 900      | 1000     |
|------------------------|---------------------------|--------------------|-------|--------|---------|----------|----------|----------|----------|----------|----------|----------|
|                        |                           | TP                 | .003  | .015   | .032    | .058     | .094     | .136     | .182     | .234     | .302     | .369     |
| .20                    | 6 x 6                     | CFM                |       |        | 60      | 80       | 100      | 120      | 140      | 160      | 180      | 200      |
|                        |                           | NC                 |       |        | —       | 15       | 21       | 26       | 29       | 32       | 35       | 38       |
|                        |                           | T 4-Way            |       |        | 4-6-9   | 5-8-13   | 6-9-15   | 8-11-17  | 9-13-20  | 10-15-23 | 11-16-26 | 12-17-28 |
|                        |                           | 3-Way              |       |        | 4-6-10  | 6-9-14   | 7-10-16  | 8-12-19  | 10-14-22 | 11-16-25 | 12-17-28 | 13-19-31 |
|                        |                           | 2-Way              |       |        | 5-7-11  | 6-9-15   | 8-11-17  | 9-14-21  | 10-16-24 | 12-17-28 | 13-19-31 | 15-21-39 |
| .38                    | 8 x 8                     | 1-Way              |       |        | 6-9-14  | 8-11-17  | 9-14-21  | 11-16-25 | 12-18-29 | 14-20-33 | 16-23-37 | 17-25-41 |
|                        |                           | CFM                |       | 75     | 115     | 150      | 190      | 230      | 265      | 305      | 340      | 380      |
|                        |                           | NC                 |       | —      | —       | 17       | 23       | 28       | 31       | 35       | 37       | 40       |
|                        |                           | T 4-Way            |       | 3-4-7  | 5-7-11  | 6-9-15   | 8-11-17  | 9-13-20  | 10-16-24 | 12-17-27 | 13-18-30 | 14-20-33 |
|                        |                           | 3-Way              |       | 3-5-8  | 5-7-12  | 6-9-15   | 8-12-18  | 10-14-22 | 11-16-25 | 14-18-29 | 14-20-32 | 15-22-36 |
| .61                    | 10 x 10                   | 2-Way              |       | 4-6-9  | 5-8-13  | 7-11-16  | 9-13-20  | 10-16-24 | 12-17-28 | 14-20-32 | 15-22-36 | 16-25-40 |
|                        |                           | 1-Way              |       | 4-6-10 | 7-10-16 | 9-13-20  | 10-16-24 | 12-18-29 | 15-21-34 | 17-24-39 | 17-26-43 | 19-30-48 |
|                        |                           | CFM                | 60    | 120    | 185     | 245      | 305      | 365      | 430      | 490      | 550      | 610      |
|                        |                           | NC                 | —     | —      | 13      | 20       | 26       | 30       | 34       | 37       | 40       | 43       |
|                        |                           | T 4-Way            | 2-3-4 | 4-6-9  | 5-8-13  | 7-11-16  | 9-13-20  | 10-16-24 | 12-17-27 | 13-19-21 | 15-21-35 | 16-24-39 |
| .90                    | 12 x 12                   | 3-Way              | 2-3-5 | 4-6-9  | 6-9-14  | 8-11-17  | 9-14-21  | 11-16-26 | 13-18-30 | 14-20-33 | 16-24-38 | 17-26-42 |
|                        |                           | 2-Way              | 2-3-5 | 4-6-10 | 6-9-15  | 8-12-19  | 10-16-24 | 12-17-28 | 14-20-33 | 16-23-37 | 17-26-42 | 19-28-46 |
|                        |                           | 1-Way              | 2-4-6 | 5-7-12 | 8-11-17 | 10-15-27 | 12-18-29 | 15-21-24 | 17-25-40 | 18-28-45 | 20-31-49 | 23-35-55 |
|                        |                           | CFM                | 90    | 180    | 270     | 360      | 450      | 540      | 630      | 720      | 800      | 900      |
|                        |                           | NC                 | —     | —      | 14      | 21       | 27       | 31       | 35       | 38       | 41       | 44       |
| 1.24                   | 14 x 14                   | T 4-Way            | 2-3-5 | 4-6-9  | 6-9-14  | 8-12-18  | 10-14-22 | 11-16-26 | 13-18-30 | 15-21-34 | 16-23-38 | 17-26-42 |
|                        |                           | 3-Way              | 2-3-5 | 4-6-10 | 6-9-15  | 8-12-19  | 10-16-24 | 12-17-28 | 14-20-32 | 16-23-37 | 17-25-41 | 19-28-46 |
|                        |                           | 2-Way              | 2-4-6 | 5-7-11 | 7-11-16 | 9-14-21  | 11-16-26 | 13-19-31 | 15-22-36 | 17-25-41 | 19-28-46 | 21-31-51 |
|                        |                           | 1-Way              | 3-4-7 | 6-9-14 | 8-12-19 | 11-16-25 | 13-19-30 | 16-23-38 | 18-27-44 | 20-30-49 | 22-35-55 | 25-38-62 |
|                        |                           | CFM                | 125   | 250    | 375     | 500      | 620      | 745      | 870      | 995      | 1120     | 1240     |
|                        |                           | NC                 | —     | —      | 15      | 23       | 29       | 33       | 37       | 40       | 43       | 46       |
|                        |                           | T 4-Way            | 2-3-5 | 4-6-10 | 6-9-15  | 8-12-19  | 10-16-24 | 12-17-28 | 14-20-33 | 16-23-37 | 17-26-42 | 19-28-46 |
|                        |                           | 3-Way              | 2-4-6 | 5-7-11 | 7-10-16 | 9-14-21  | 11-16-26 | 13-19-31 | 15-22-36 | 16-25-40 | 18-28-45 | 20-31-49 |
|                        |                           | 2-Way              | 2-4-6 | 5-7-12 | 8-11-17 | 10-15-23 | 12-18-29 | 15-21-34 | 16-25-40 | 18-28-45 | 20-31-49 | 23-35-55 |
|                        |                           | 1-Way              | 3-5-8 | 6-9-15 | 9-14-20 | 12-17-28 | 15-21-34 | 17-25-40 | 19-29-47 | 22-33-53 | 25-38-60 | 28-42-67 |

**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<sup>-12</sup> watts.

### Performance Notes:

1. Pressures are expressed in inches of water gauge.

2. Throw values are given for terminal velocities of 150, 100 and 50 fpm, with a cooling temperature differential (ΔT) of 20°F and are based on surface mount units benefiting from the coanda effect. The blade settings were set for optimum discharge, parallel to the face of the grille, that have the outer blades closest to the frame set with an opening of 1/8" (3) and progressively wider spacing between blades away from the frame. (**Note:** The throw values may be increased or decreased by as much as 20% by changing the blade setting).

3. Blades in the full open position

- reduce the NC by 6.
- multiply the total pressure x 0.3.

4. The NC values are based on a room absorption of 10 dB, re 10<sup>-12</sup> watts.

5. Data derived from tests conducted in accordance with ANSI/ASHRAE Standard 70 – 1991.

## Performance Data

Models: 61CC, 61CCD  
51CC, 51CCD

| Core Area, Square Feet | Nominal Duct Size, Inches | Core Velocity, FPM | 100   | 200    | 300     | 400      | 500      | 600      | 700      | 800      | 900      | 1000     |
|------------------------|---------------------------|--------------------|-------|--------|---------|----------|----------|----------|----------|----------|----------|----------|
|                        |                           | TP                 | 003   | 015    | 032     | 058      | 094      | 136      | 182      | 234      | 302      | 369      |
| 1.44                   | 15 x 15                   | CFM                | 145   | 290    | 430     | 575      | 720      | 860      | 1005     | 1150     | 1290     | 1435     |
|                        |                           | NC                 | —     | —      | 15      | 23       | 29       | 33       | 37       | 40       | 43       | 46       |
|                        |                           | T                  | 4-Way | 2-4-6  | 4-6-10  | 7-10-16  | 9-13-20  | 10-16-24 | 12-18-29 | 15-21-34 | 16-23-38 | 17-26-38 |
|                        |                           |                    | 3-Way | 2-4-6  | 5-7-11  | 7-11-16  | 9-14-21  | 11-16-28 | 13-19-31 | 15-22-36 | 17-25-41 | 19-27-46 |
|                        |                           |                    | 2-Way | 3-4-7  | 5-8-13  | 8-12-18  | 10-16-24 | 12-18-29 | 15-21-35 | 17-25-41 | 19-28-46 | 21-32-51 |
|                        |                           |                    | 1-Way | 3-5-8  | 6-9-15  | 10-14-22 | 12-17-28 | 15-21-35 | 17-26-42 | 20-30-49 | 22-34-54 | 25-38-61 |
| 1.64                   | 16 x 16                   | CFM                | 165   | 330    | 490     | 655      | 820      | 985      | 1150     | 1315     | 1480     | 1640     |
|                        |                           | NC                 | —     | —      | 16      | 24       | 29       | 34       | 38       | 41       | 44       | 47       |
|                        |                           | T                  | 4-Way | 2-4-6  | 5-7-11  | 7-10-16  | 9-13-20  | 11-16-25 | 13-18-30 | 15-21-35 | 16-24-39 | 18-27-44 |
|                        |                           |                    | 3-Way | 2-4-6  | 5-7-12  | 7-11-16  | 10-14-22 | 12-17-27 | 14-20-32 | 16-23-38 | 17-26-43 | 19-30-48 |
|                        |                           |                    | 2-Way | 3-4-7  | 5-8-13  | 8-12-18  | 10-16-24 | 13-19-31 | 15-22-36 | 17-26-42 | 19-29-46 | 22-33-53 |
|                        |                           |                    | 1-Way | 3-5-8  | 7-10-16 | 10-14-22 | 12-18-29 | 15-22-36 | 17-26-43 | 20-31-49 | 23-35-49 | 26-40-63 |
| 2.10                   | 18 x 18                   | CFM                | 210   | 420    | 630     | 840      | 1050     | 1260     | 1470     | 1680     | 1890     | 2100     |
|                        |                           | NC                 | —     | —      | 17      | 25       | 30       | 35       | 39       | 42       | 45       | 48       |
|                        |                           | T                  | 4-Way | 2-4-6  | 5-7-12  | 8-11-17  | 10-14-22 | 12-17-27 | 14-20-33 | 16-23-43 | 17-26-43 | 19-30-48 |
|                        |                           |                    | 3-Way | 3-4-7  | 5-8-13  | 8-12-18  | 10-16-24 | 12-18-29 | 15-21-35 | 17-25-41 | 19-28-46 | 21-32-51 |
|                        |                           |                    | 2-Way | 3-4-7  | 6-9-14  | 9-13-20  | 12-17-29 | 14-20-33 | 17-24-39 | 18-28-45 | 21-31-50 | 24-36-57 |
|                        |                           |                    | 1-Way | 4-6-9  | 7-11-16 | 10-16-24 | 14-20-32 | 16-24-39 | 20-39-47 | 22-33-53 | 25-38-60 | 28-43-68 |
| 2.88                   | 21 x 21                   | CFM                | 290   | 575    | 865     | 1155     | 1440     | 1730     | 2020     | 2305     | 2595     | 2885     |
|                        |                           | NC                 | —     | —      | 19      | 27       | 32       | 37       | 41       | 44       | 47       | 50       |
|                        |                           | T                  | 4-Way | 3-4-7  | 5-8-13  | 8-12-18  | 11-16-25 | 13-18-30 | 15-22-36 | 17-26-42 | 19-30-48 | 22-34-53 |
|                        |                           |                    | 3-Way | 3-4-7  | 6-9-14  | 9-13-20  | 11-16-26 | 14-20-33 | 16-24-39 | 18-28-45 | 21-31-50 | 24-37-57 |
|                        |                           |                    | 2-Way | 3-5-8  | 7-10-16 | 10-15-23 | 12-18-29 | 16-23-37 | 18-27-44 | 20-31-49 | 23-35-56 | 26-41-63 |
|                        |                           |                    | 1-Way | 4-6-10 | 8-12-18 | 12-17-27 | 15-20-37 | 18-27-44 | 21-32-51 | 25-38-60 | 28-42-67 | 32-49-77 |

**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<sup>-12</sup> watts.

### Performance Notes:

1. Pressures are expressed in inches of water gauge.

2. Throw values are given for terminal velocities of 150, 100 and 50 fpm, with a cooling temperature differential ( $\Delta T$ ) of 20°F and are based on surface mount units benefiting from the coanda effect. The blade settings were set for optimum discharge, parallel to the face of the grille, that have the outer blades closest to the frame set with an opening of 1/8" (3) and progressively wider spacing between blades away from the frame. (**Note:** The throw values may be increased or decreased by as much as 20% by changing the blade setting).

3. Blades in the full open position

- reduce the NC by 6.
- multiply the total pressure x 0.3.

4. The NC values are based on a room absorption of 10 dB, re 10<sup>-12</sup> watts.

5. Data derived from tests conducted in accordance with ANSI/ASHRAE Standard 70 – 1991.

## PRODUCT OVERVIEW OPTIONS AND ACCESSORIES FOR CEILING DIFFUSERS

### MOUNTING FRAMES

- Surface mount adapter frames for plaster and sheet rock ceilings are available in steel and aluminum. They simplify installation, save time and allow ceiling plenum access.

### OPTIONS

- A selection of optional items that are available on ceiling diffusers.

### FINISHES

- Selection of standard and non-standard finishes to choose from.
- Baked enamel paint in custom colors to suit architect.

### AIR BALANCING DEVICES

- Dampers for round and square necks.
- Equalizing grids.
- Volume extractors.

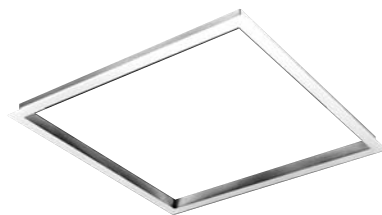
Effective air balancing of an HVAC System requires the correct selection, specification and installation of the right product to suit the system design.

Nailor offers a comprehensive range of models and options to cover all applications.

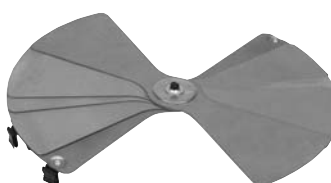
Nailor balancing devices are:

- Easy to select and specify. Many items can be ordered or specified as diffuser accessories.
- Designed to offer a smooth, accurate and predictable response during adjustment for precise air metering.
- Designed to provide quick access and adjustment.
- Engineered with attention to optimizing airflow, in order to minimize noise, turbulence and pressure drop.

**Model DFA**  
Drywall/Plaster Frame  
Surface Mount  
Ceiling Adapter



**Model 4275**  
Radial Opposed  
Blade Damper



**Model 4250**  
Radial Sliding Blade Damper



**Model 4675**  
Butterfly Damper



**Model OBD**  
Opposed Blade Damper  
Steel, Neck Mount



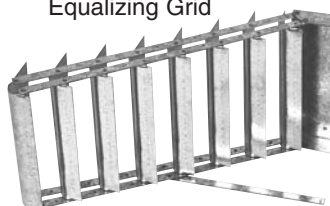
**Model OBDD**  
Opposed Blade Damper  
Steel, Duct Mount



**Model EGR**  
Equalizing Grid



**Model DEGR**  
Damper with Equalizing Grid



**Model EX-1**  
Volume Extractor

## Mounting Frames

### MODELS: DFS (Steel), DFA (Aluminum) Drywall/Plaster Frame

The DF Series are for mounting in finished drywall or plaster ceilings to accept any standard lay-in type grille, register, diffuser or other ceiling component. Installation of the air outlet is as simple as inserting them in a standard lay-in T-Bar type ceiling system. The DF Series simplifies and reduces installation time compared with surface mount type diffusers. This is especially true where flexible duct is utilized.

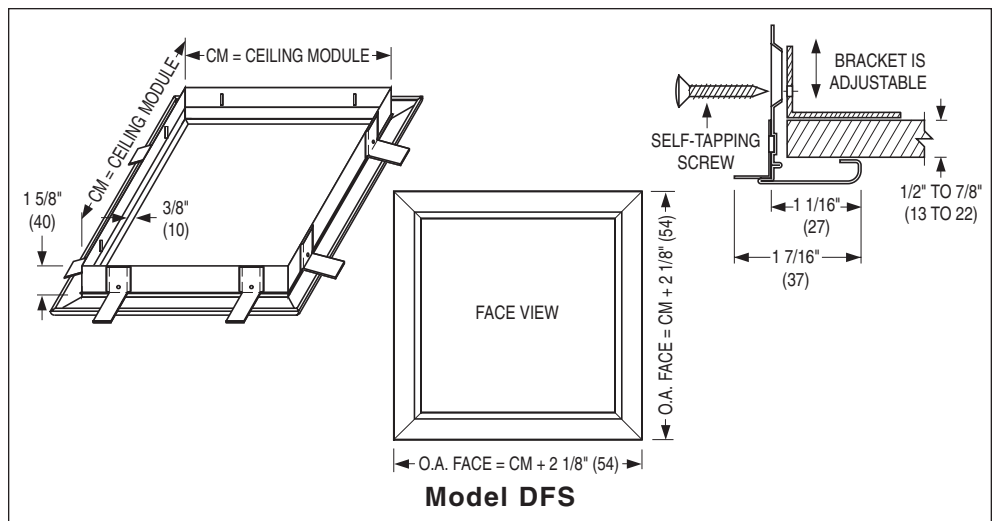
A major benefit is that the DF Series allows access to the ceiling plenum space above for maintenance purposes without the need for separate access doors. The finished appearance is professional and aesthetically pleasing.

**Standard Finish:** AW Appliance White baked enamel. Other finishes are available.

**Model DFS** is installed quickly and easily using adjustable fastening angle brackets which adapt to various ceiling thicknesses. Frames are roll-formed corrosion-resistant steel with staked and mitered corners.

| IMPERIAL MODULES        |                 | METRIC MODULES  |
|-------------------------|-----------------|-----------------|
| Imperial Units (inches) | S.I. Units (mm) | S.I. Units (mm) |
| 12 x 12                 | 305 x 305       | 300 x 300       |
| 16 x 16                 | 406 x 406       | 400 x 400       |
| 20 x 20                 | 508 x 508       | 500 x 500       |
| 24 x 12                 | 610 x 305       | 600 x 300       |
| 24 x 24                 | 610 x 610       | 600 x 600       |

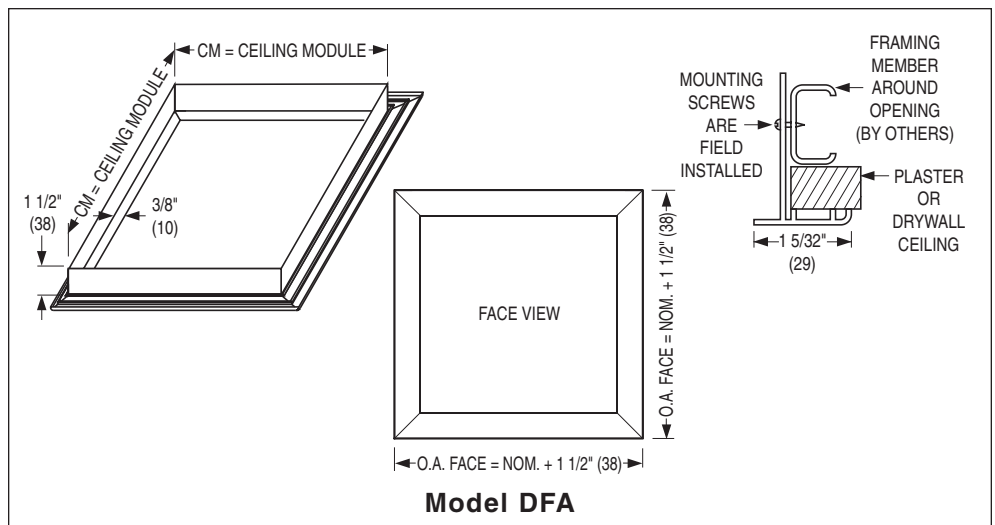
Ceiling opening = CM + 1/4" (6)



**Model DFA** requires framing of the ceiling opening with 'C' channel or wood studs for attachment with mounting screws (by others).

| IMPERIAL MODULES        |                 | METRIC MODULES  |
|-------------------------|-----------------|-----------------|
| Imperial Units (inches) | S.I. Units (mm) | S.I. Units (mm) |
| 12 x 12                 | 305 x 305       | 300 x 300       |
| 16 x 16                 | 406 x 406       | 400 x 400       |
| 20 x 20                 | 508 x 508       | 500 x 500       |
| 24 x 12                 | 610 x 305       | 600 x 300       |
| 24 x 24                 | 610 x 610       | 600 x 600       |
| 36 x 24                 | 914 x 610       | 900 x 600       |
| 48 x 12                 | 1219 x 305      | 1200 x 300      |
| 48 x 24                 | 1219 x 610      | 1200 x 600      |
| 60 x 12                 | 1524 x 305      | 1500 x 300      |

Ceiling opening = CM + 1/4" (6)



## Options and Finishes

### OPTIONS:

#### EQT Earthquake Tabs

Earthquake (seismic) retaining safety tabs are available; factory installed on diffusers when required by local building code that units be independently restrained and safety wired to supporting structure.

#### SC Safety Chain

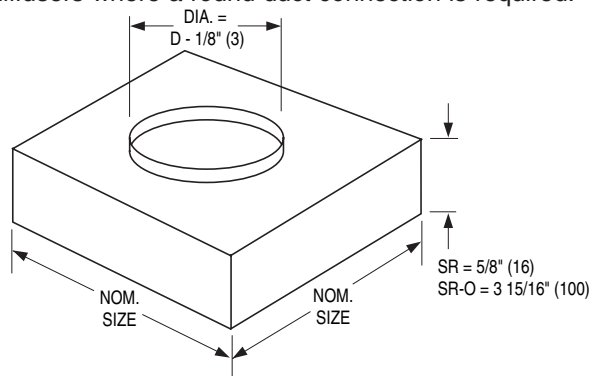
An optional safety chain is available on all of Nailor's round ceiling diffusers.

#### GK Foam Gaskets

Foam gasket is available on a selection of surface mount diffusers.

#### SR Square to Round Transition Collar

Transition collars are for use on Nailor square neck diffusers where a round duct connection is required.



| SQUARE NECK<br>SIZE<br>(INCHES) | ROUND NECK<br>SIZE D<br>(INCHES) |
|---------------------------------|----------------------------------|
| 6 x 6                           | 4, 5, 6                          |
| 9 x 9                           | 6, 7, 8, 9                       |
| 12 x 12                         | 6, 8, 9, 10, 12                  |
| 15 x 15                         | 6, 8, 10, 12, 14, 15             |
| 18 x 18                         | 6, 8, 10, 12, 14, 15, 16, 18     |
| 21 x 21                         | 6, 8, 10, 12, 14, 15, 16, 18, 20 |

### EXTERNAL FOIL BACK INSULATION

#### EX External Insulation Blanket - Factory Installed

An optional 1 1/2" thick foil back insulation is available installed on a majority of Nailor ceiling diffusers. The insulation has an R value of 4.2.

#### EXB External Insulation Blanket - Ships Loose

This insulation is the same as above but is shipped loose for field installation.

#### MIB Molded Insulation Blanket - Factory Installed

The molded insulation is available as an option on various 24" x 24" square diffusers. The insulation has an R value of 6.0.

### FINISHES:

#### BAKED ENAMEL PAINT

##### AW Appliance White (standard)

A white finish that is currently the industry standard. Closely matches standard finishes supplied by the majority of T-Bar ceiling system manufacturers. (No additional cost).

##### AL Aluminum

Contains suspended metal particles to give the appearance of a silver grey metallic or anodized finish. (No additional cost).

##### WH Off-White

Has a creamy appearance. (Additional cost)

##### BK Black

This black has a matte finish. (Additional cost)

##### BA Black Interior/Appliance White Face

Optional on perforated diffusers. AW Appliance White is applied on the perforated face and BK Black is applied on the interior of the backpan for a discreet appearance. (No additional cost)

##### SP Special

The **Nailor** range of diffusers are available in any color for special architectural consideration. Custom colors are individually mixed to match customer supplied samples. (Additional cost)

#### ACRYLIC

##### AAW Acrylic Appliance White

Extra protection for your diffusers. This color matches the industry standard white finish. (Additional cost).

##### ASP Acrylic Special Finish

Extra protection for your diffusers. Custom colors are individually mixed to match customer supplied samples. (Additional cost)

### ALSO AVAILABLE

#### MI Mill Finish

(No additional cost).

#### PPA Paint Prepared Metal (Washed only)

(No additional cost).

#### PC Prime Coat

(Additional cost).

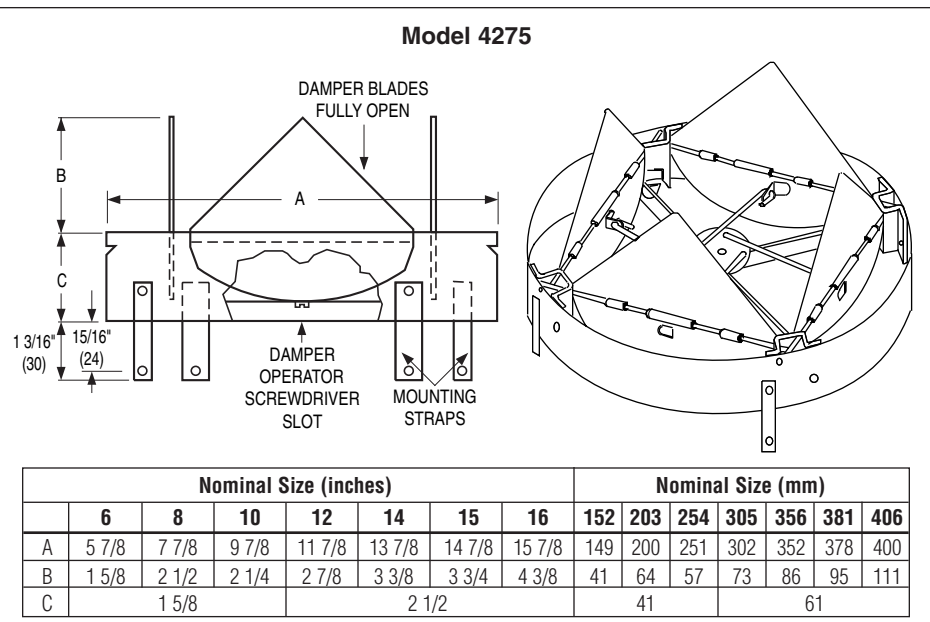
## Air Balancing Devices

### Radial Opposed Blade Damper

A unique method of controlling volume through a diffuser providing premium design quality and performance. The multi-blade perimeter design offers true radial flow at any setting.

A screwdriver slot, accessible through the diffuser, requires only a half turn to adjust from fully closed to fully open. The damper is designed to fit directly on the neck of the diffuser. Simple, convenient and accurate installation and operation.

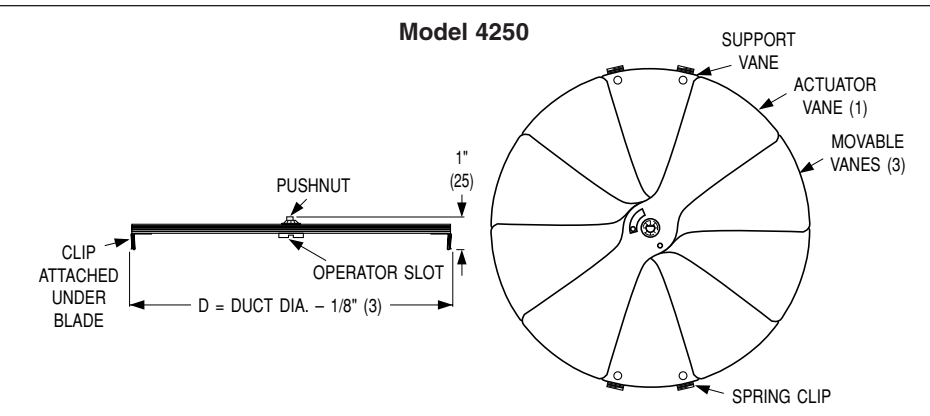
Available with an optional operator arm. **Model 4275-OA** allows damper adjustment on the **UNI Diffusers** without removing the inner cone assembly.



### Radial Sliding Blade Damper

The **Model 4250** is a neck mounted radial sliding blade damper used in round neck diffuser applications to provide fine volume control. Gang operated radial blades slide at right angles to the duct with minimal protrusion above the diffuser neck; allowing the damper to work effectively in flexible duct applications.

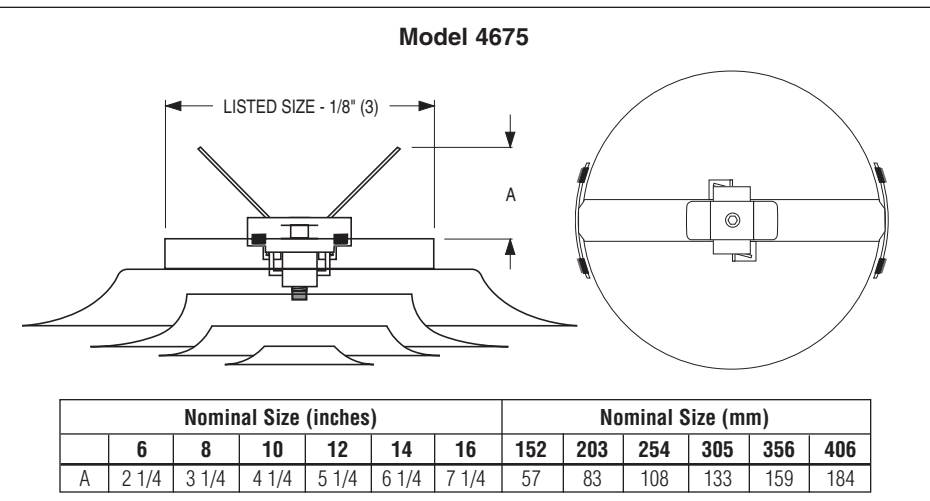
Available in sizes 6", 8", 10", 12" and 14" (152, 203, 254, 305 and 356).



### Butterfly Damper

The **Model 4675 Butterfly Damper** is an economical damper for volume balancing in round neck diffusers. Adjustable friction pivots hold the blades at the required setting. Adjusted from the face of the diffuser.

Not recommended for use with flexible duct.





## Air Balancing Devices

### OPPOSED BLADE DAMPERS

**Nailor** Opposed Blade Dampers feature heavy gauge, roll-formed, corrosion-resistant steel or extruded aluminum blades and frame with miscellaneous steel components.

The gang operated multi-blade design with blades closing at 45 degrees permits fine volume control for accurate balancing with minimum disturbance to the airflow pattern. Blades are individually pivoted on 1" (25) centers.

#### DIFFUSER MOUNT MODELS:

**OBD Steel**

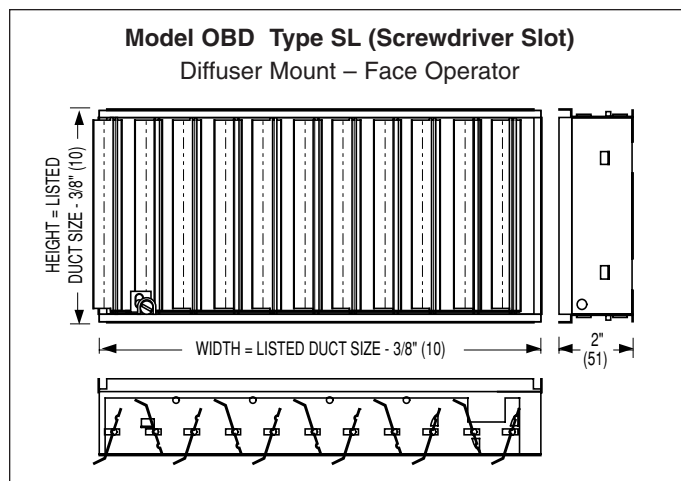
**OBD-A Aluminum**

This style of damper mounts directly on the neck and are sized to suit most **Nailor** diffusers. Uses steel barbed S-clips for easy field mounting or removal when ordered separately. Supplied as standard with a screwdriver slot operator (Type SL). Can be specified as an integral part of the diffuser model by adding a - O (steel) or - OA (aluminum) suffix to the diffuser model.

Available with Type DL Lever Operator for use with 6200, 6400 and 6500 Series Pattern Diffusers and 6600 Series Plaque Diffusers. Permits balancing without removing the diffuser inner core assembly.

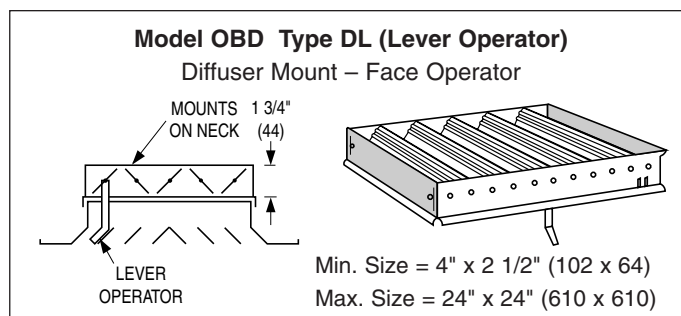
#### Type SL Operator

The SL Operator incorporates a screwdriver slot, which adjusts from the face of the diffuser. This operator is the standard supplied when ordered separately.



#### Type DL Operator

The DL Operator incorporates a lever that adjusts without the use of tools. The lever operator extends through the diffuser face.





## Air Balancing Devices

### DUCT MOUNT MODELS:

**OBDD Steel**

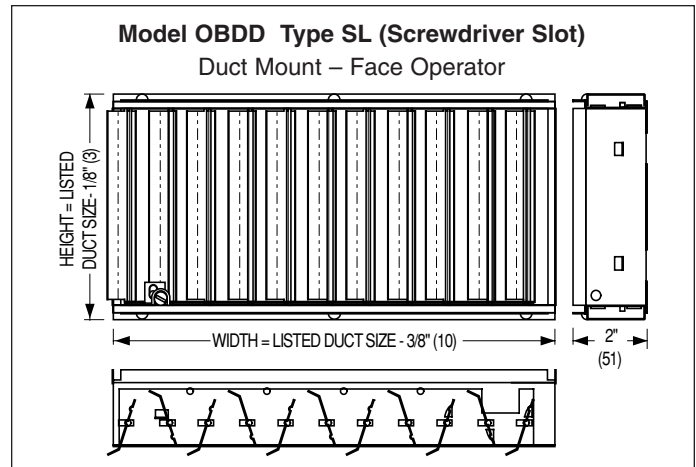
**OBDD-A Aluminum**

Designed to be field mounted independently in the duct, separate from and behind the diffuser. They are sized to suit and offer a friction fit in nominally sized ducts. They are secured with 1/2" (13) long sheet metal screws (by others) through the double walled sub-frame.

Min. Size = 4" x 2 1/2" (102 x 64) Max. Size = 24" x 24" (610 x 610)

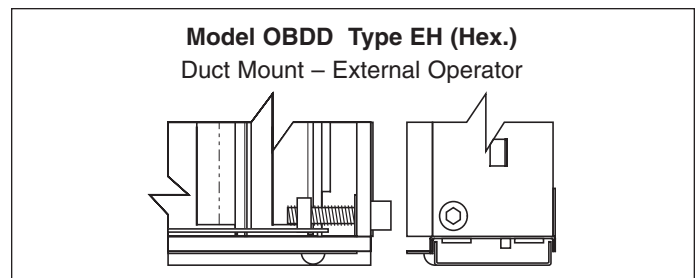
### Type SL Operator

These models are supplied with a screwdriver slot face operator that is accessed from inside the duct by removing the diffuser.



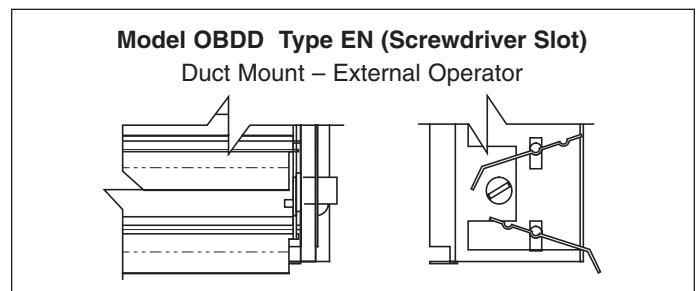
### Type EH Operator

These duct mount models feature an external 3/16" (5) hex operator accessible from outside the duct; from the side of the duct when blades run vertically and from underneath the duct when blades run horizontally.



### Type EN Operator

These duct mount models feature an external glass-filled nylon screwdriver slot operator accessible from outside the duct; from underneath the duct when blades run vertically, and from the side of the duct when blades run horizontally.



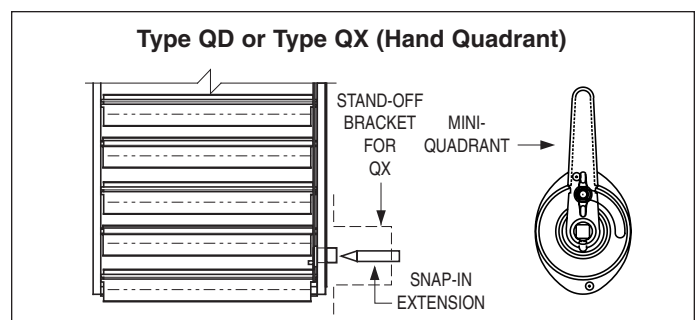
### Type QD Operator \*

A snap-in shaft extension with 'mini' hand locking quadrant is available as an optional accessory.

### Type QX Operator \*

A snap-in shaft extension with 'mini' hand locking quadrant and 2" (51) stand-off bracket for externally insulated ducts. Order damper with blades parallel to horizontal duct dimension to ensure quadrant is located on vertical side of the duct.

\*Not available on Model OBDD-A

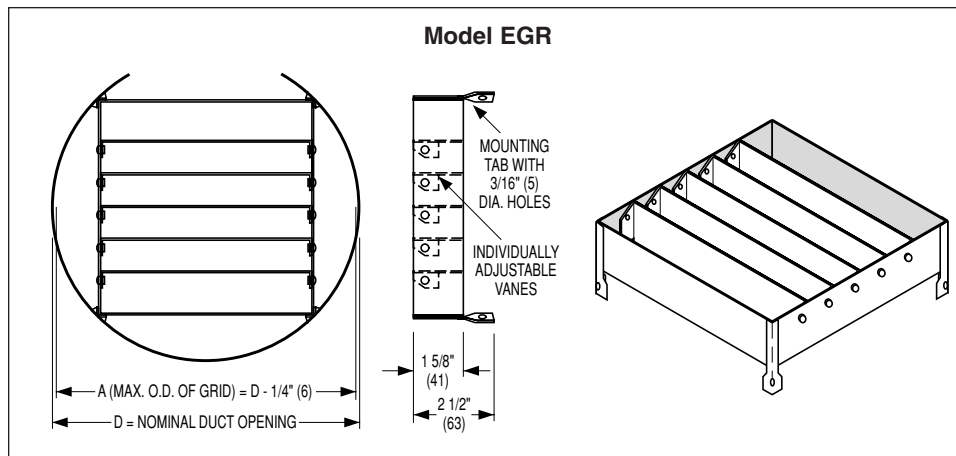


## Air Balancing and Directional Control Devices

### Equalizing Grid for Round Necks

The **Model EGR** is a duct mounted grid that equalizes the airflow into the branch duct or diffuser neck and provides directional control. They are shipped loose for field installation. The individually adjusted vanes are friction pivoted to hold the desired setting.

Recommended method of installation is flush with the take-off collar and with the vanes perpendicular to the direction of the approaching airflow.

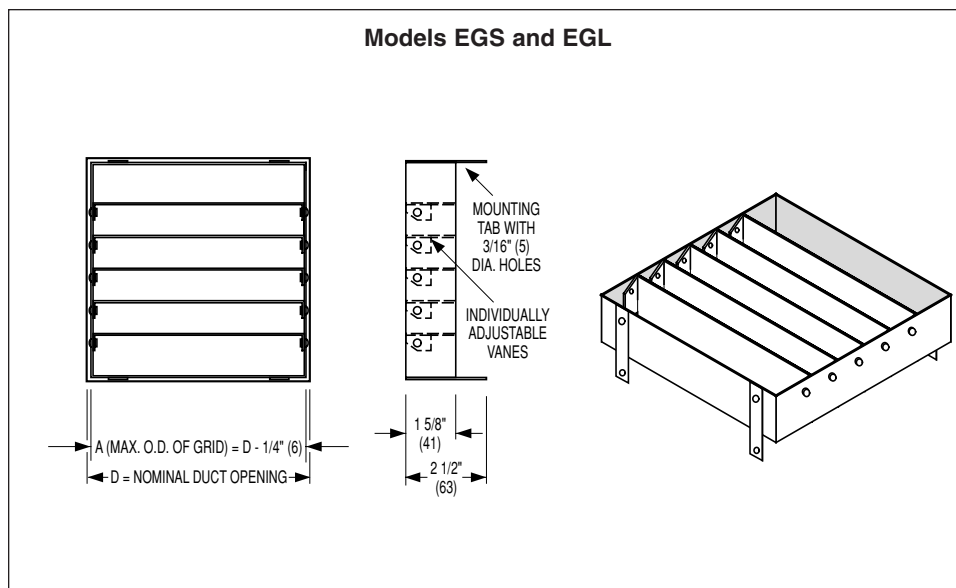


### Equalizing Grid for Square and Rectangular Necks

The **Models EGS and EGL** are duct mounted grids that equalize the airflow into the branch duct or diffuser neck and provide directional control. They are shipped loose for field installation. The individually adjusted vanes are friction pivoted to hold the desired setting.

Recommended method of installation is flush with the take-off collar and with the vanes perpendicular to the direction of the approaching airflow.

The suffix 'S' or 'L' indicates blades are parallel to the short or long dimension.



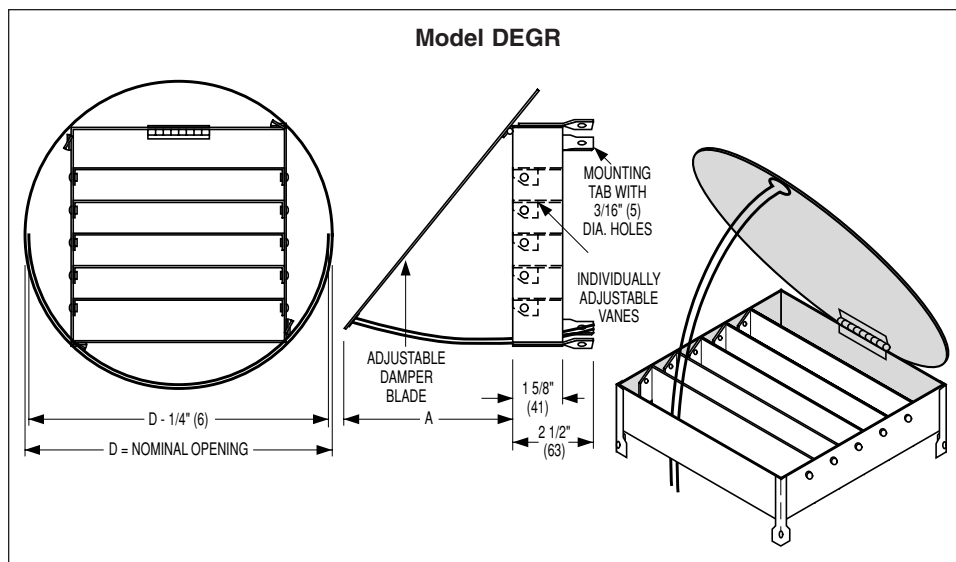
### Damper with Equalizing Grid for Round Necks

The **Model DEGR** is a duct mounted combination damper with equalizing grid.

It performs as a volume extractor with dampering to near shut-off as well as equalizing the airflow into the branch duct or diffuser neck and providing directional control.

The individual adjustable vanes are friction pivoted to hold the desired setting.

Damper blade may be adjusted to any angle and locked in position with adjusting wires under screw heads.



## Air Balancing and Directional Control Devices

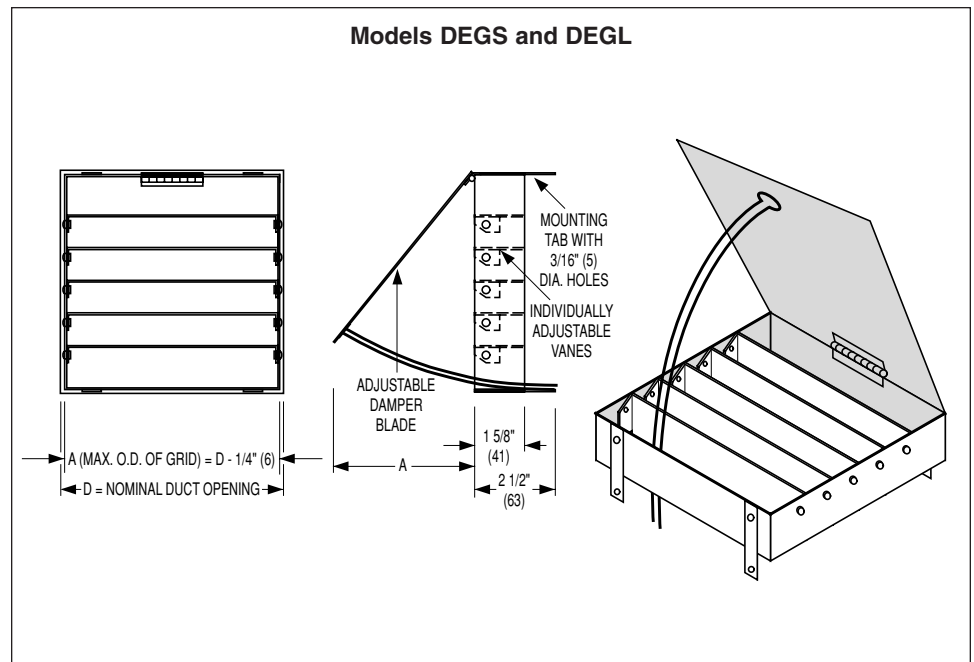
### Damper with Equalizing Grid for Square and Rectangular Necks

The **Models DEGS and DEGL** are duct mounted combination dampers with equalizing grids. They perform as a volume extractor with dampering to near shut-off as well as equalizing the airflow into the branch duct or diffuser neck and providing directional control.

The individual adjustable vanes are friction pivoted to hold the desired setting.

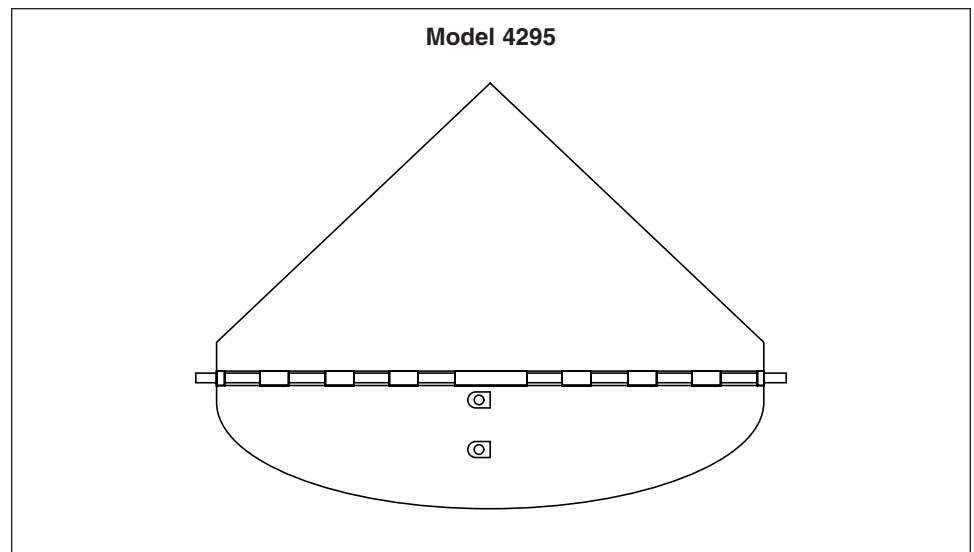
Damper blade may be adjusted to any angle and locked in position with adjusting wires under screw heads.

The suffix 'S' or 'L' indicates blades are parallel to the short or long dimension.



### Quadrant Blanks for RNS and RNSA Round Neck Diffusers

The **Model 4295 Quadrant Blanks** are for insertion into the diffuser neck to provide one, two or three-way discharge as may be required to accommodate nearby airflow obstructions. Quadrant Blanks are available for all neck sizes. Hinge pins on the unit clip easily into pre-set holes on the collar for simple installation.



## Volume Extractors

### MODEL SERIES

**EX** Blades on 2" centers

**EXD** Blades on 1" centers

The **Model Series EX Volume Extractors** uniformly divert air from the main duct into the branch take-off and across the face of a grille or diffuser. Gang-operated parallel blades available on 2" (51) or 1" (25) centers pivot from full open to full closed with blades overlapping for shut-off. The curved blade design improves airflow by reducing turbulence, thereby reducing noise and pressure drop.

Specify or order: Length x Width. (Length is first dimension. Blades are parallel to width, second dimension).

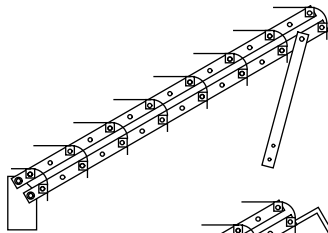
### FEATURES:

- Material: Galvanized steel.
- Minimum size: 6" x 4" (152 x 102).
- Maximum size: 36" x 36" (914 x 914).

### Operator Types

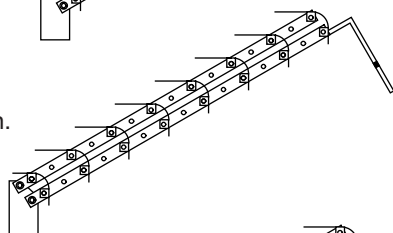
#### EX/EXD-1

Standard unit with adjusting strap.



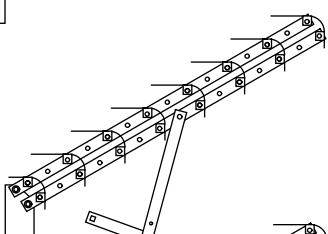
#### EX/EXD-1-R

Rod operator for external operation.



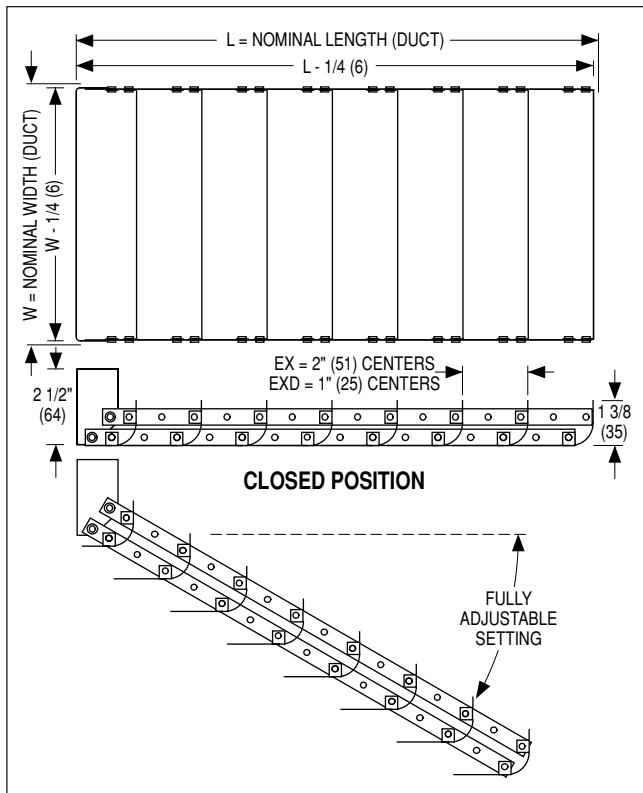
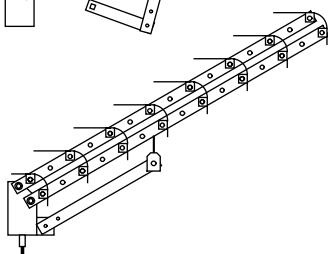
#### EX/EXD-2

Linkage with 7/16" (11) square hole (2 per unit). Remote operator (eg. Young Regulator #1) by others.



#### EX/EXD-3

Screw gear operator. Adjusts with 3/16" (48) wrench (by others).



### Optional Accessories

#### RLD

Locking device for Models **EX/EXD-1-R**.

