

## GENERAL PRODUCT OVERVIEW

### Fire Rated Products

Nailor offers a wide variety of fire rated products that are designed to provide the unobtrusive appearance required for architectural excellence and the high engineering performance required for use in heating and cooling applications. Ceiling diffusers, plenum slot diffusers and even ductless return air grilles are some of the many styles that are available.

Nailor's selection of fire rated products are classified for use in UL/ULC restrained or unrestrained floor/ceiling and or roof/ceiling assemblies which incorporate an exposed grid suspended ceiling (lay-in T-Bar) with up to a 3 hour rating. For details of fire rated assemblies, see the current UL or ULC Fire Resistance Directory.

### FIRE RATED PATTERN CEILING DIFFUSERS

Nailor pattern ceiling diffusers are a high capacity louvered face directional diffuser that can supply large volumes of air at relatively low sound levels and pressure drops. Available in a 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 particular requirements.

#### Square Neck –

Fixed Pattern	Model 6500FRD	<b>Page E7</b>
Adjustable Pattern	Model 6550FRD	<b>Page E7</b>
Induction Vanes	Model 6500IVFRD	<b>Page E7</b>

#### Round Neck –

Fixed Pattern	Model 6505FRD	<b>Page E10</b>
Adjustable Pattern	Model 6555FRD	<b>Page E10</b>
Induction Vanes	Model 6505IVFRD	<b>Page E10</b>



Model 6500FRD



Models 4010, 4010-1, 4420

### FIRE RATED STAMPED SQUARE CEILING DIFFUSERS

Nailor 4000 and 4400 series models are a fire rated version of the popular RNS series. They 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.

#### Fixed Air Pattern – Round Neck

Full Face	Models 4010, 4020	<b>Page E13</b>
Panel Type	Models 4030, 4040	<b>Page E13</b>
Surface Mount	Model 4010 Type S (ULC only)	<b>Page E16</b>

#### Adjustable Pattern – Round Neck

Full Face	Models 4010-1, 4020-1	<b>Page E19</b>
Panel Type	Models 4030-1, 4040-1	<b>Page E19</b>

#### Fixed Pattern 2-Cone – Round Neck

Full Face	Models 4410, 4420	<b>Page E22</b>
Panel Type	Models 4430, 4440	<b>Page E22</b>

### FIRE RATED ARCHITECTURAL CEILING DIFFUSERS

These Nailor models are a fire rated version of the popular UNI series. Designed with the architect in mind, the diffusers in this series are fashioned to blend in with most ceiling types to create the ultimate aesthetic look. Nailor has made available the standard UNI with a fixed 360° air diffusion pattern.

#### Flat Panel – Round Neck

Full Face	Models 4410-UNI, 4420-UNI	<b>Page E25</b>
Panel Type	Models 4430-UNI, 4440-UNI	<b>Page E25</b>
Surface Mount	Models 4410-UNI Type S (ULC only)	<b>Page E28</b>



Model 4410-UNI

## FIRE RATED PATTERN CEILING DIFFUSERS

- SQUARE NECK
- 3 HOUR RATING
- LOUVERED FACE
- HIGH CAPACITY
- LAY-IN

### Models:

- 6500FRD** Fixed Pattern
- 6550FRD** Adjustable Pattern
- 6500IVFRD** Induction Vanes



CATEGORY  
CABS & CABS7



Model 6500FRD

Models 6500FRD, 6550FRD and 6500IVFRD are UL Classified fire rated ceiling diffuser component assemblies. The ceiling damper and thermal blanket accessory are listed in Underwriters Laboratories Fire Resistance Directory under categories, "Ceiling Dampers" and "Ceiling Fire Stop Flap Assemblies Certified for Canada." This design meets UL time-vs-temperature test criteria and NFPA 90A requirements.

All diffusers are classified for use in UL/ULC restrained or unrestrained floor/ceiling and or roof/ceiling assemblies which incorporate an exposed grid suspended ceiling (lay-in T-Bar) with up to a 3 hour rating. For details of fire rated assemblies, see the current UL or ULC Fire Resistance Directory.

Pattern Ceiling Diffusers provide a high capacity louvered face directional diffuser that can supply large volumes of air at relatively low sound levels and pressure drops. Available in a 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 requirements.

All models provide a tight horizontal discharge pattern from maximum to minimum airflow, making this product ideally suited to VAV applications.

Model 6550FRD Adjustable Pattern Ceiling Diffuser features four hinged, independently adjustable control vanes, providing continuous adjustment of the air discharge pattern from horizontal to vertical on each side of the diffuser.

Model 6500IVFRD Induction Vane Pattern Ceiling Diffuser features induction vanes mounted behind the louvers that create counter-flowing jets of primary air that promote rapid mixing of the cool primary air with room air.

### STANDARD FEATURES:

- Tested in accordance with UL Standard 555C "Ceiling Dampers" and ULC S112.2 "Fire Stop Flap Assemblies."
- Spring-loaded core. Removable without the use of tools.
- Engineered air diffusion patterns for 1, 2, 3 or 4-way blow in a variety of square neck sizes.
- Clean lines with no unsightly visible screws.
- The fixed ceiling radiation damper is standard. An adjustable model for balancing is optional (see page E8).
- Removing the inner core assembly gives access to AV balancing option.
- 212°F (100°C) fusible link is standard (165°F [74°C] is optional).
- All models must be installed in accordance with the installation instructions for UL/ULC Classification.

### CONSTRUCTION MATERIAL:

- Corrosion-resistant steel.

### FINISH OPTIONS:

- AW Appliance White finish is standard.
- Other finishes are available.

### PERFORMANCE DATA:

- See non-fire rated Model 6500 or Model 6500IV.

**Core Selection:**

**4A, 4-way**

**3A, 3-way**

**2S, 2-way opposite**

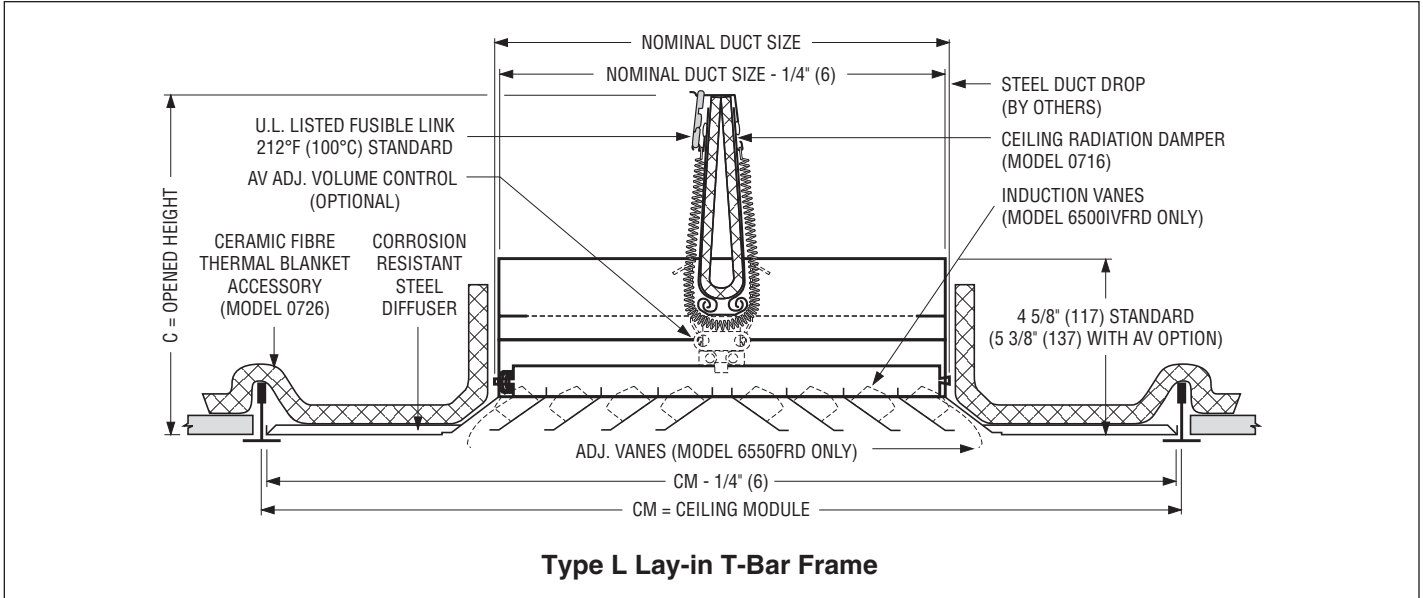
**2G, 2-way corner**

**1S, 1-way**

**Note:**  
Model 6550FRD is available in core style 4A only.

## DIMENSIONAL DATA:

### MODELS 6500FRD, 6550FRD AND 6500IVFRD • SQUARE NECK



### Dimensional Data and Sizing Availability:

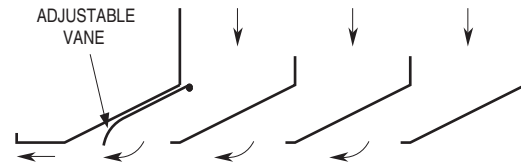
Ceiling Module CM	Nominal Duct Size (square)	Opened Height C	
		Standard	With AV Option
12 x 12	6 x 6 (152 x 152)	5 3/4 (146)	6 1/2 (165)
	9 x 9 (229 x 229)	7 1/4 (184)	8 (203)
24 x 24	6 x 6 (152 x 152)	5 3/4 (146)	6 1/2 (165)
	9 x 9 (229 x 229)	7 1/4 (184)	8 (203)
	12 x 12 (305 x 305)	9 (229)	9 3/4 (248)
	15 x 15 (381 x 381)	10 1/4 (260)	11 (279)
	18 x 18 (457 x 457)	11 3/4 (298)	N/A
	21 x 21 (533 x 533)	13 1/4 (337)	N/A

Dimensions are in inches (mm).

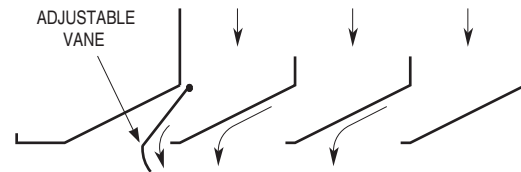
#### Note:

If the square ceiling module is more than 3" (76) larger than the duct size, a module sized extended panel is utilized.

### Model 6550FRD Pattern Adjustment



**Horizontal Pattern**  
Adjustable Vane Open Position

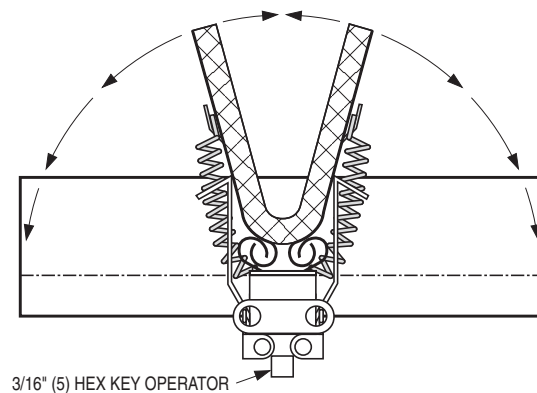


**Vertical Pattern**  
Adjustable Vane Closed Position

### AV Adjustable Volume Control Option.

This UL Listed ceiling radiation damper control (**Model 0716A**) option allows the ceiling radiation damper to be used as a balancing damper for volume control. The ceiling damper blades are adjusted with a hex key and perform like a butterfly damper.

**Note:** Maximum square duct size for this option is 15" x 15" (381 x 381).



## HOW TO ORDER OR TO SPECIFY

### FIRE RATED PATTERN CEILING DIFFUSERS • SQUARE NECK – MODELS 6500FRD, 6550FRD AND 6500IVFRD

**EXAMPLE: 6500FRD - 0909 - 24" x 24" - L - AW - 4A - 212 - AV**

**1. Models**

- 6500FRD Fixed Pattern
- 6550FRD Adjustable Pattern
- 6500IVFRD Induction Vanes

**2. Neck Size**

**Imperial**

- 0606 06" x 06" (152 x 152) Square
- 0909 09" x 09" (229 x 229) Square
- 1212 12" x 12" (305 x 305) Square
- 1515 15" x 15" (381 x 381) Square
- 1818 18" x 18" (457 x 457) Square
- 2121 21" x 21" (533 x 533) Square

Only available on 24" x 24" or 600 x 600 ceiling modules

**3. Ceiling Module Size**

**Imperial**

- 12" x 12"
- 24" x 24"

**Metric**

- 300 mm x 300 mm
- 600 mm x 600 mm

**4. Frame Type**

- L Lay-in T-Bar (default)

**5. Finish**

- AW Appliance White (default)
- AL Aluminum
- BK Black
- BW British White
- PC Prime Coat
- SP Special Custom Color

**6. Core Style**

- 4A 4-Way (default)
- 1S 1-Way
- 2G 2-Way Corner
- 2S 2-Way Opposite Equal
- 3A 3-Way

**7. Fusible Link Temperature**

- 212 212°F (100°C) (default)
- 165 165°F (74°C)

**8. Volume Control**

- None (default)
- AV Adjustable Volume Control

**Notes:**

1. Consult individual model as to limitations of module, neck size and core style combination.
2. Model 6550FRD is available with core style 4A only.

**SUGGESTED SPECIFICATION:**

Furnish and install **Nailor Model** (select one) **6500FRD, 6550FRD** or **6500IVFRD Square Neck Steel Fire Rated Pattern Ceiling Diffusers** of the sizes and capacities as shown on the plans and air distribution schedules. The diffusers shall incorporate fixed discharge louvers for a horizontal throw pattern and shall be supplied in 4, 3, 2 or 1-way pattern as specified. Model 6550FRD shall include adjustable vanes to provide a vertical throw pattern capability. Model 6500IVFRD shall include induction vanes for high induction, reduced throw and rapid air mixing. (Optional: ceiling damper shall be provided with AV adjustable volume control for field balancing). The finish shall be AW Appliance White (optional finishes are available). The entire core assembly shall be removable without the use of tools. Diffusers shall be factory assembled UL/ULC fire rated diffuser component assemblies and classified for use in restrained or unrestrained floor/ceiling and or roof/ceiling assemblies which incorporate an exposed grid suspended ceiling with up to a 3 hour rating. Ceiling damper and thermal blanket accessory shall be listed in UL/ULC Fire Resistance (Certifications) Directory and meet all NFPA 90A requirements.

**FIRE RATED PRODUCTS**

## FIRE RATED PATTERN CEILING DIFFUSERS

- ROUND NECK
- 3 HOUR RATING
- LOUVERED FACE
- HIGH CAPACITY
- LAY-IN

### Models:

- 6505FRD** Fixed Pattern
- 6555FRD** Adjustable Pattern
- 6505IVFRD** Induction Vanes



CATEGORY  
CABS & CABS7



Model 6505FRD

Models 6505FRD, 6555FRD and 6505IVFRD are UL Classified fire rated ceiling diffuser component assemblies. The ceiling damper and thermal blanket accessory are listed in Underwriters Laboratories Fire Resistance Directory under categories, "Ceiling Dampers" and "Ceiling Fire Stop Flap Assemblies Certified for Canada." This design meets UL time-vs-temperature test criteria and NFPA 90A requirements.

All diffusers are classified for use in UL/ULC restrained or unrestrained floor/ceiling and or roof/ceiling assemblies which incorporate an exposed grid suspended ceiling (lay-in T-Bar) with up to a 3 hour rating. For details of fire rated assemblies, see the current UL or ULC Fire Resistance Directory.

Pattern Ceiling Diffusers provide a high capacity louvered face directional diffuser that can supply large volumes of air at relatively low sound levels and pressure drops. Available in a 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 requirements.

All models provide a tight horizontal discharge pattern from maximum to minimum airflow, making this product ideally suited for VAV applications.

Model 6555FRD Adjustable Pattern Ceiling Diffuser features four hinged, independently adjustable control vanes, providing continuous adjustment of the air discharge pattern from horizontal to vertical on each side of the diffuser.

Model 6505IVFRD Induction Vane Pattern Ceiling Diffuser features induction vanes mounted behind the louvers that create counter-flowing jets of primary air that promote rapid mixing of the cool primary air with room air.

### STANDARD FEATURES:

- Tested in accordance with UL Standard 555C "Ceiling Dampers" and ULC S112.2 "Fire Stop Flap Assemblies."
- Spring-loaded core. Removable without the use of tools.
- Engineered air diffusion patterns for 1, 2, 3 or 4-way blow.
- Clean lines with no unsightly visible screws.
- Round neck permits use of flexible duct.
- The fixed ceiling radiation damper is standard. An adjustable model for balancing is optional (see page E11).
- Removing the inner core assembly gives access to AV balancing option.
- 212°F (100°C) fusible link is standard (165°F [74°C] is optional).
- All models must be installed in accordance with the installation instructions for UL/ULC Classification.

### CONSTRUCTION MATERIAL:

- Corrosion-resistant steel.

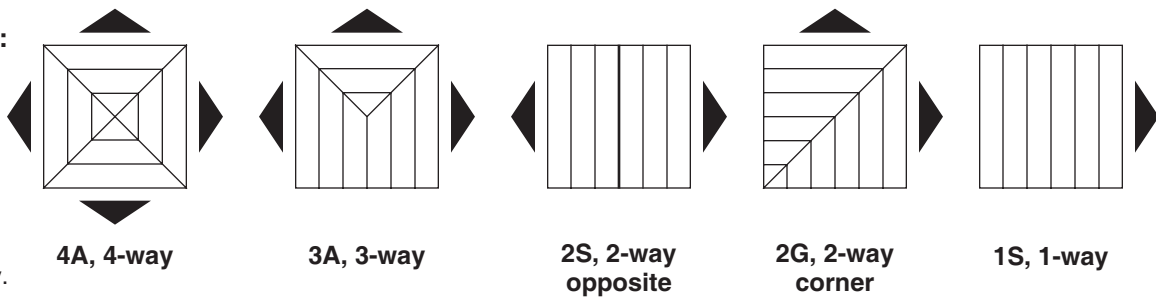
### FINISH OPTIONS:

- AW Appliance White finish is standard.
- Other finishes are available.

### PERFORMANCE DATA:

- See non-fire rated Model 6500 or Model 6500IV.

### Core Selection:

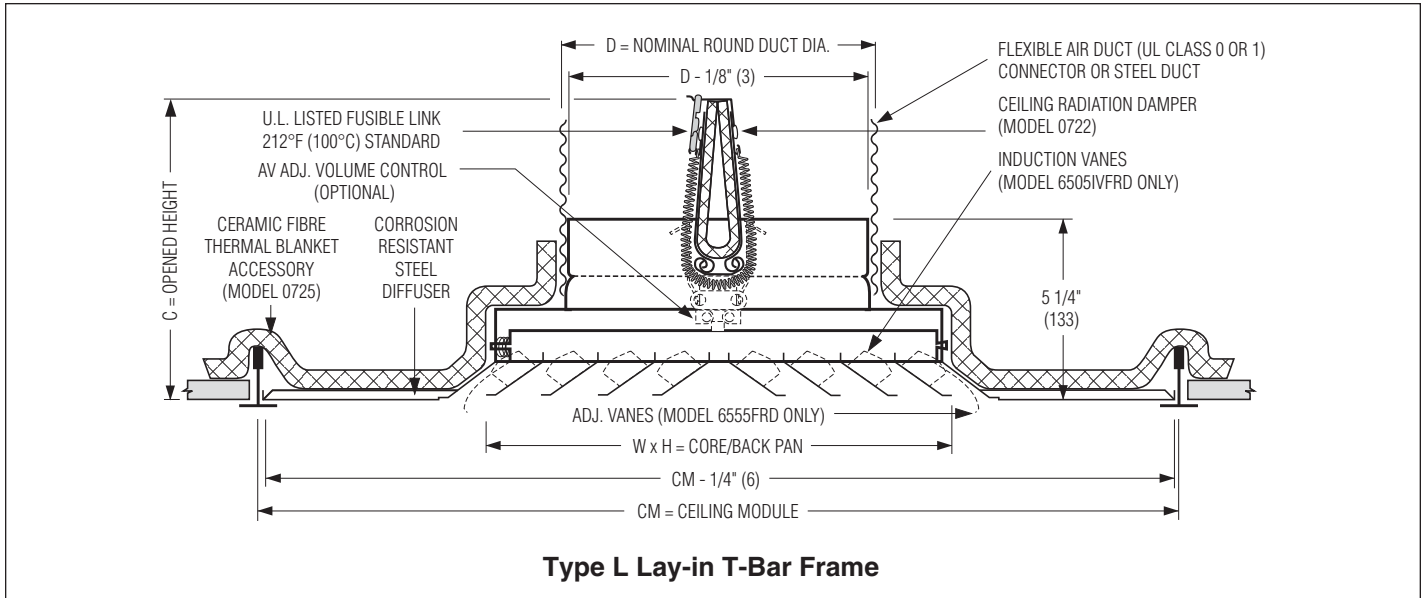


### Note:

**Model 6555FRD** is available in core style 4A only.

## DIMENSIONAL DATA:

### MODELS 6505FRD, 6555FRD AND 6505IVFRD • ROUND NECK



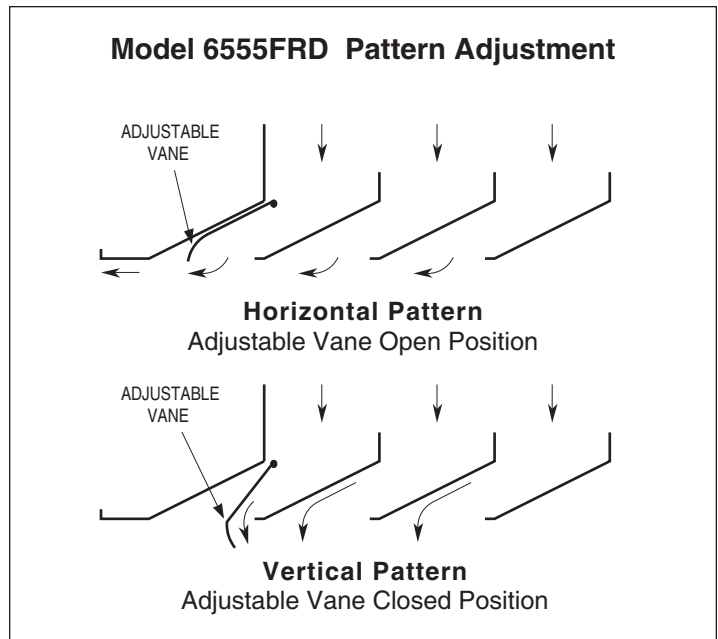
### Dimensional Data and Sizing Availability:

Ceiling Module	Core / Back Pan	Round Neck	Opened Height
CM	W x H	D	C
12 x 12	9 x 9 (229 x 229)	6 (152)	6 1/2 (165)
		8 (203)	7 1/2 (191)
24 x 24	9 x 9 (229 x 229)	6 (152)	6 1/2 (165)
		8 (203)	7 1/2 (191)
	12 x 12 (305 x 305)	10 (254)	8 1/2 (216)
		14 (356)	10 1/2 (267)
15 x 15 (381 x 381)	12 (305)	9 1/2 (241)	
	14 (356)	10 1/2 (267)	
18 x 18 (457 x 457)	12 (305)	9 1/2 (241)	9 1/2 (241)
		14 (356)	10 1/2 (267)

Dimensions are in inches (mm).

**Note:**

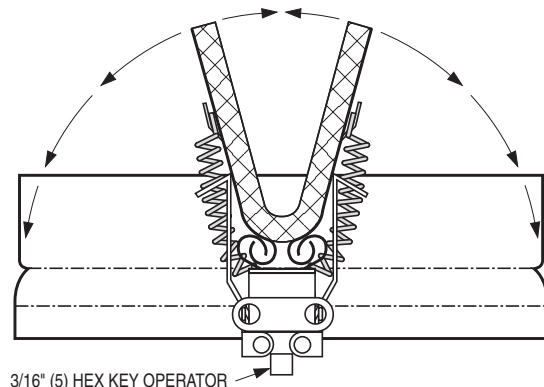
If the square ceiling module is more than 3" (76) larger than the duct size, a module sized extended panel is utilized.



**AV Adjustable Volume Control Option.**

This UL Listed ceiling radiation damper control (**Model 0722A**) option allows the ceiling radiation damper to be used as a balancing damper for volume control.

The ceiling damper blades are adjusted with a hex key and perform like a butterfly damper.



## HOW TO ORDER OR TO SPECIFY

### FIRE RATED PATTERN CEILING DIFFUSERS • ROUND NECK – MODELS 6505FRD, 6555FRD AND 6505IVFRD

**EXAMPLE: 6505FRD - 0909 - 08 - 24" x 24" - L - AW - 4A - 212 - AV**

- |  |  |   |   |   |
|--|--|---|---|---|
| <p><b>1. Models</b></p> <ul style="list-style-type: none"> <li>6505FRD Fixed Pattern</li> <li>6555FRD Adjustable Pattern</li> <li>6505IVFRD Induction Vanes</li> </ul> <p><b>2. Core/Back Pan Size</b></p> <p><b>Imperial</b></p> <ul style="list-style-type: none"> <li>0909 09" x 09" (229 x 229)</li> <li>1212 12" x 12" (305 x 305)</li> <li>1515 15" x 15" (381 x 381)</li> <li>1818 18" x 18" (457 x 457)</li> </ul> <p><b>3. Neck Size</b></p> <p><b>Imperial</b></p> <table border="0" style="border-collapse: collapse;"> <tr> <td style="padding-right: 10px;"> <ul style="list-style-type: none"> <li>06 6" (152) Round</li> <li>08 8" (203) Round</li> <li>10 10" (254) Round</li> <li>12 12" (305) Round</li> <li>14 14" (356) Round</li> </ul> </td> <td style="font-size: 2em; vertical-align: middle; padding: 0 10px;">}</td> <td style="vertical-align: middle;"> <p>Only available on<br/>24" x 24" or<br/>600 mm x 600 mm<br/>ceiling modules</p> </td> </tr> </table> <p><b>3. Ceiling Module Size</b></p> <p><b>Imperial</b></p> <ul style="list-style-type: none"> <li>12" x 12"</li> <li>24" x 24"</li> </ul> <p><b>Metric</b></p> <ul style="list-style-type: none"> <li>300 mm x 300 mm</li> <li>600 mm x 600 mm</li> </ul> <p><b>4. Frame Type</b></p> <ul style="list-style-type: none"> <li>L Lay-in T-Bar (default)</li> </ul> | <ul style="list-style-type: none"> <li>06 6" (152) Round</li> <li>08 8" (203) Round</li> <li>10 10" (254) Round</li> <li>12 12" (305) Round</li> <li>14 14" (356) Round</li> </ul> | }   | <p>Only available on<br/>24" x 24" or<br/>600 mm x 600 mm<br/>ceiling modules</p> | <p><b>5. Finish</b></p> <ul style="list-style-type: none"> <li>AW Appliance White (default)</li> <li>AL Aluminum</li> <li>BK Black</li> <li>BW British White</li> <li>PC Prime Coat</li> <li>SP Special Custom Color</li> </ul> <p><b>6. Core Style</b></p> <ul style="list-style-type: none"> <li>4A 4-Way (default)</li> <li>1S 1-Way</li> <li>2G 2-Way Corner</li> <li>2S 2-Way Opposite Equal</li> <li>3A 3-Way</li> </ul> <p><b>7. Fusible Link Temperature</b></p> <ul style="list-style-type: none"> <li>212 212°F (100°C) (default)</li> <li>165 165°F (74°C)</li> </ul> <p><b>8. Volume Control</b></p> <ul style="list-style-type: none"> <li>— None (default)</li> <li>AV Adjustable Volume Control</li> </ul> |
| <ul style="list-style-type: none"> <li>06 6" (152) Round</li> <li>08 8" (203) Round</li> <li>10 10" (254) Round</li> <li>12 12" (305) Round</li> <li>14 14" (356) Round</li> </ul>   | }  | <p>Only available on<br/>24" x 24" or<br/>600 mm x 600 mm<br/>ceiling modules</p> |   |   |

**Notes:**

1. Consult individual model as to limitations of module, neck size and core style combination.
2. Model 6555FRD is available with core style 4A only.

**SUGGESTED SPECIFICATION:**

Furnish and install **Nailor Model** (select one) **6505FRD, 6555FRD** or **6505IVFRD Round Neck Steel Fire Rated Pattern Ceiling Diffusers** of the sizes and capacities as shown on the plans and air distribution schedules. The diffusers shall incorporate fixed discharge louvers for a horizontal throw pattern and shall be supplied in 4, 3, 2 or 1-way pattern as specified. Model 6555FRD shall include adjustable vanes to provide a vertical throw pattern capability. Model 6505IVFRD shall include induction vanes for high induction, reduced throw and rapid air mixing. (Optional: ceiling damper shall be provided with AV adjustable volume control for field balancing). The finish shall be AW Appliance White (optional finishes are available). The entire core assembly shall be removable without the use of tools. Diffusers shall be factory assembled UL/ULC fire rated diffuser component assemblies and classified for use in restrained or unrestrained floor/ceiling and or roof/ceiling assemblies which incorporate an exposed grid suspended ceiling with up to a 3 hour rating. Ceiling damper and thermal blanket accessory shall be listed in UL/ULC Fire Resistance (Certifications) Directory and meet all NFPA 90A requirements.

## PERFORMANCE DATA:

### MODELS 6500 AND 6200 • SQUARE NECK

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

D

CEILING DIFFUSERS

For performance notes, see page D37.



## PERFORMANCE DATA:

### MODELS 6500 AND 6200 • SQUARE NECK

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

For performance notes, see page D37.

D

CEILING DIFFUSERS

## PERFORMANCE DATA:

### MODELS 6500 AND 6200 • ROUND NECK

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

For performance notes, see page D37.