

## FULL FACE MODULAR CORE

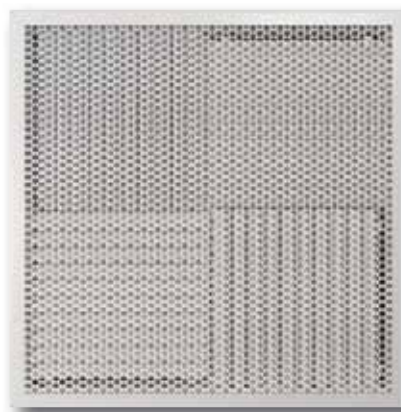
This grille frame style, full face diffuser, features an extruded aluminum frame with a corrosion-resistant steel modular core. The modular core is shipped in a 4-way pattern and can easily be field adjusted to provide a 1, 2, or 3-way pattern. These diffusers are available with square necks only. For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

### Flush Face

Steel Face – Model 4340M  
 Aluminum Face – Model 4340MA

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Model 4340M



Model 4330

## PREMIUM ARCHITECTURAL, 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  
 Aluminum – Model 4330AA

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## PREMIUM ARCHITECTURAL, 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  
 Aluminum – Model 4330CBAA

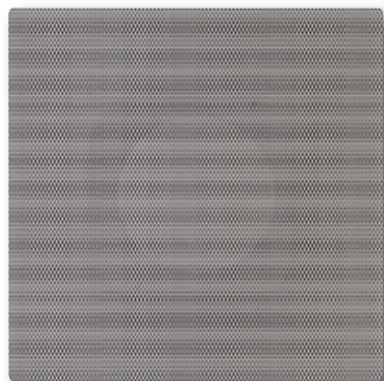
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Model 4330CB



Model 4310A

## ALL ALUMINUM PERFORATED 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

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## PERFORATED

This perforated supply and return model with a corrosion-resistant steel diffuser face with a one-piece, pre-scored, molded fiberglass plenum with a foil-back vapour barrier and a 4-way discharge pattern. 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.

### Supply

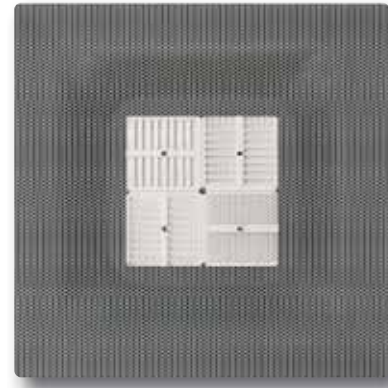
Steel – Model 4350

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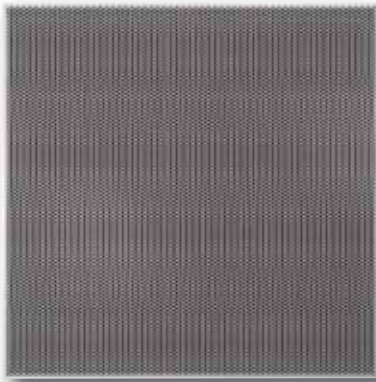
### Return

Steel – Model 4350R

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Model 4350



Model 4360

## Return Air

### 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  
 Aluminum Face – Model 4360A  
 Aluminum – Model 4360AA

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#### Drop Face

Steel – Model 4365  
 Aluminum Face – Model 4365A  
 Aluminum – Model 4365AA

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## EXTRUDED FRAME

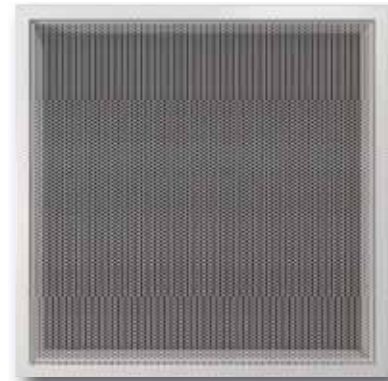
This grille frame style, full face diffuser has an extruded aluminum frame and is offered with a choice of a corrosion-resistant steel or an aluminum perforated face. The diffusers are available with square necks only and can be used in both ductless and ducted applications. See Model Series 4340CB and 4340M for the matching supply diffusers.

### Flush Face

Steel Face – Model 4340R  
 Aluminum Face – Model 4340RA

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Model 4340R



Model 4302-DF

## 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  
 Aluminum – Model 4302A

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### Drop Face

Steel – Model 4302-DF

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### Fineline®

Steel – Model 4302-F

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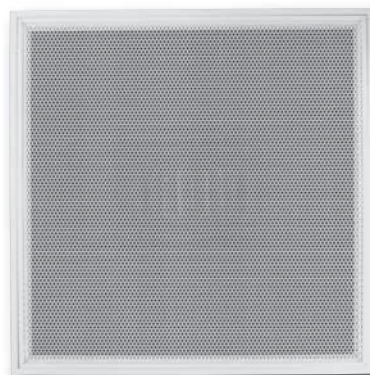
## PREMIUM

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.

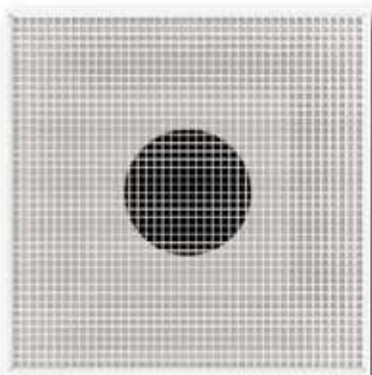
### Flush Face

Steel Face – Model 4330R  
 Aluminum Face – Model 4330RA

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Model 4330R



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.

### Return

Steel Frame/Backpan – Model 4260  
 Aluminum Face – Model 4260AA

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## SQUARE 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  
 Aluminum – Model 7200  
 Suffix '-O' adds a steel OBD

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Model 7500



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 Page D250  
 No Directional Vanes – Model 61CC Page D250

### Aluminum Construction

Directional Vanes – Model 51CCD Page D250  
 No Directional Vanes – Model 51CC Page D250

## 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. **Pages D255 – D267**

## 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.

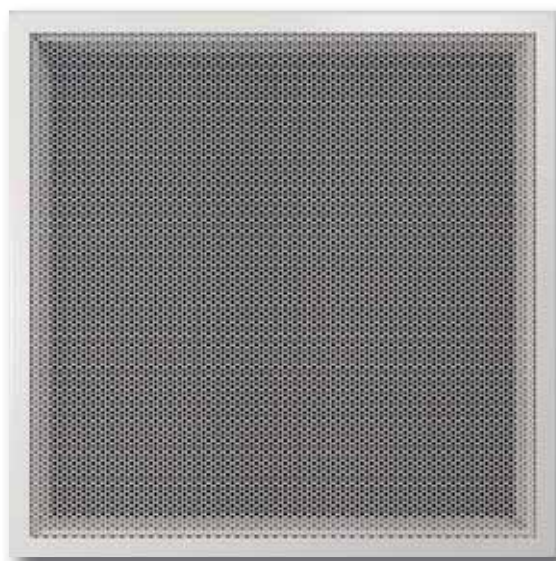
***This is the only warranty given with the purchase. Any warranties implied by law are limited to sixty (60) months from the date of shipment by Nailor. Nailor neither assumes nor authorizes any person to assume for it any other liability in connection with any diffuser covered by this agreement.***

***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.

## PERFORATED RETURN AIR DIFFUSERS

- SURFACE MOUNT
- SQUARE NECK
- MATCH AND COMPLIMENT 4340CB AND 4340M SUPPLY MODELS



Model 4340R

### Steel Face Model:

4340R

### Aluminum Model:

4340RA

D

CEILING DIFFUSERS

Model Series 4340R 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.

Model 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.

### STANDARD 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 screwholes on face of outer frame.
- Dropping the perforated face gives access to the optional opposed blade damper.

### CONSTRUCTION MATERIAL:

Extruded aluminum frame. Corrosion-resistant steel perforated face (Model 4340R) or aluminum perforated face (Model 4340RA).

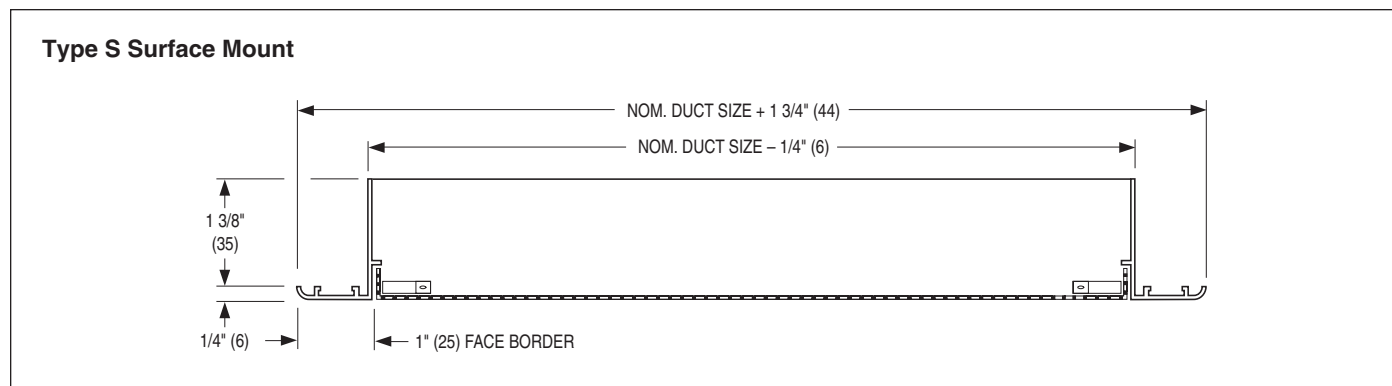
### FINISH OPTIONS:

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

### OPTIONS & ACCESSORIES:

- GK Foam Gasket
- EQT Earthquake Tabs

For additional options and accessories; see page D255.



## PERFORMANCE DATA:

### Models 4340R, 4340RA • Surface Mount • Square Neck

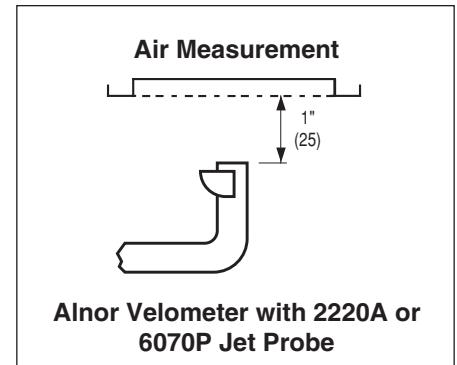
Listed Duct Size	Core Area (sq. ft.)	Ak Factor	Core Velocity	300	400	500	600	700	800	900	1000	1200
			Velocity Pressure	.006	.010	.016	.022	.031	.040	.051	.062	.090
			Neg. Static Pressure	.024	.042	.067	.095	.130	.170	.215	.265	.382
6 x 6	0.20	0.20	CFM	60	80	100	120	140	160	180	200	240
			Noise Criteria	—	—	—	15	21	26	32	37	44
8 x 8	0.38	0.36	CFM	114	152	190	228	266	304	342	380	456
			Noise Criteria	—	—	11	18	25	29	35	40	47
10 x 10	0.61	0.56	CFM	183	244	305	366	427	488	549	610	732
			Noise Criteria	—	—	13	20	27	31	37	42	49
12 x 12	0.90	0.80	CFM	270	360	450	540	630	720	810	900	1080
			Noise Criteria	—	—	15	22	28	33	38	44	51
14 x 14	1.24	1.09	CFM	372	496	620	744	868	992	1116	1240	1488
			Noise Criteria	—	—	16	23	29	34	39	45	52
16 x 16	1.64	1.42	CFM	492	656	820	984	1148	1312	1476	1640	1968
			Noise Criteria	—	—	17	24	30	35	40	46	53
18 x 18	2.10	1.80	CFM	630	840	1050	1260	1470	1680	1890	2100	2520
			Noise Criteria	—	—	17	24	30	36	40	46	53
20 x 20	2.61	2.22	CFM	783	1044	1305	1566	1827	2088	2349	2610	3132
			Noise Criteria	—	11	18	25	30	37	41	47	54
22 x 22	3.17	2.69	CFM	951	1268	1585	1902	2219	2536	2853	3170	3804
			Noise Criteria	—	11	18	26	31	37	42	48	55
24 x 24	3.79	3.20	CFM	1137	1516	1895	2274	2653	3032	3411	3790	4548
			Noise Criteria	—	12	19	27	33	38	43	49	56

#### Performance Notes:

- All pressures are in inches w.g..
- Diffuser tested without damper. Apply the following corrections for addition of opposed blade damper to diffuser:  
**Neg. Static Pressure** Listed Value x 1.10.  
**Noise Criteria** Add 5 dB to listed value.
- Noise Criteria (NC) values are based upon 10 dB room absorption, re 10<sup>-12</sup> watts. Dash (—) in space indicates an Noise Criteria of less than 10.
- Data derived from tests conducted in accordance with ANSI/ASHRAE Standard 70 – 2006.
- Core Velocity is in feet per minute.

#### Airflow Measurements

- Balancing factors are applicable with or without dampers, providing uniform airflow exists into diffuser.
- 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.
- Total the various velocity readings and divide by the number of readings taken to arrive at an average inlet velocity (Vk in FPM).
- Calculate the airflow (CFM) by multiplying the average velocity by the appropriate Ak factor.  
 Airflow (CFM) = Average velocity (Vk) x Ak.



## HOW TO ORDER

### PERFORATED RETURN CEILING DIFFUSERS, GRILLE TYPE

#### MODEL SERIES 4340CB, 4340M AND 4340R

EXAMPLE: 4340CB - O - 0808 - S - AW - B4 - A - -

1a. **Models**

**Supply:**

- 4340CB Steel, Curved Blade  
Controllers
- 4340CBA Aluminum, Curved Blade  
Controllers
- 4340M Steel, Modular Core
- 4340MA Aluminum, Modular Core

**Return:**

- 4340R Steel
- 4340RA Aluminum

1b. **Damper**

(model suffix)

- None (default)
- O OBD Opposed Blade, Steel

2. **Neck Size** (inches – all models)

- 0606 6 x 6
- 0808 8 x 8
- 1010 10 x 10
- 1212 12 x 12
- 1414 14 x 14
- 1616 16 x 16
- 1818 18 x 18
- 2020 20 x 20
- 2222 22 x 22
- 2424 24 x 24

Return only:

- 3030 30 x 30
- 4824 48 x 24

3. **Frame Type**

- S Surface Mount (default)

4. **Finish**

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

5. **Blow Pattern**

(CB only)

- B4 4-way (default)
- B1 1-way
- B2 2-way opposite
- B3 3-way
- C2 2-way corner

6. **Fastening**

- N None (default)
- A Screw Holes

7. **Gasket**

- None (default)
- GK Foam Gasket

8. **Earthquake Tabs**

- None (default)
- EQT Earthquake Tabs

**OTHER OPTIONS & ACCESSORIES:**

9. **Air Balancing Devices**

(order separately)

**Square/Rectangular Neck:**

- EGL Equalizing Grid (long)
- DEGL Damper/Equalizing Grid (long)

**Note:**

1. Consult individual models as to limitations of available ceiling module, frame type, neck size and accessories combinations.

**HOW TO SPECIFY**

**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 (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 – 2006.

**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 (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 – 2006.

**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 (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 – 2006.

**D**  
**CEILING DIFFUSERS**



## PERFORATED RETURN AIR DIFFUSERS

- RETURN
- MATCH AND COMPLIMENT SUPPLY MODELS
- PREMIUM ARCHITECTURAL QUALITY

### Steel Model:

4330R Flush Face

### Aluminum Face Model:

4330RA Flush Face



Model 4330R

Model Series 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.

### STANDARD 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.

### CONSTRUCTION MATERIAL:

Model 4330R has a corrosion-resistant steel perforated face and backpan. Model 4330RA has an aluminum perforated face and corrosion-resistant steel backpan. Both models have an aluminum border and frame.

### FINISH OPTIONS:

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

### OPTIONS & ACCESSORIES:

#### Round Neck:

- 4250 Radial Sliding Blade Damper 6" – 14" (152 – 356).
- 4275 Radial Opposed Blade Damper 5" – 24" (127 – 610).
- 4675 Butterfly Damper 6" – 14" (152 – 356).

#### Square or Rectangular Neck:

- OBD Opposed Blade Damper (Steel)

### OTHER OPTIONS & ACCESSORIES:

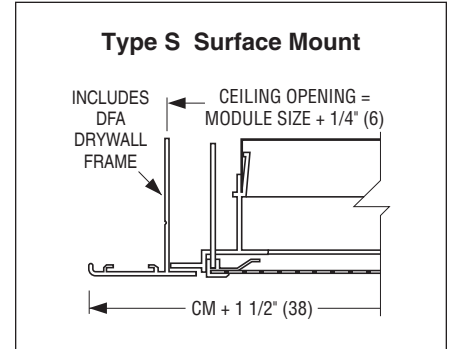
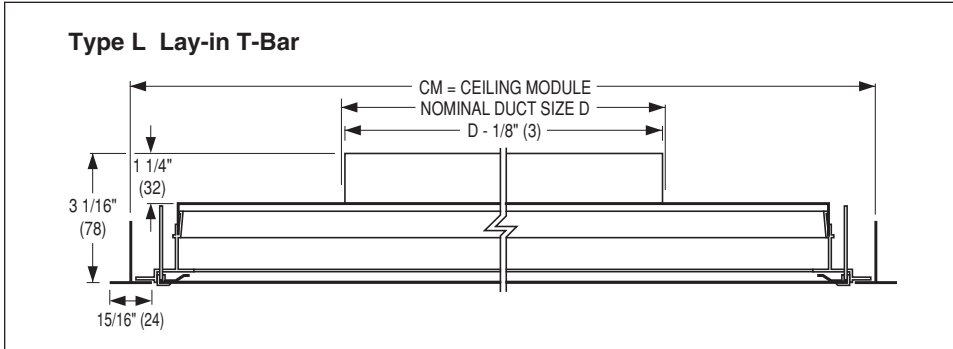
- EQT Earthquake Tabs

For additional options and accessories; see page D255.

## DIMENSIONAL DATA AND FRAME TYPES:

### Models 4330R, 4330RA • Return • Flush Face • Round or Square Neck

All round ducts and square ducts when duct size is less than CM - 2" (51).

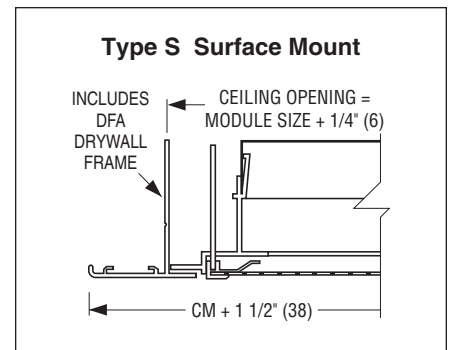
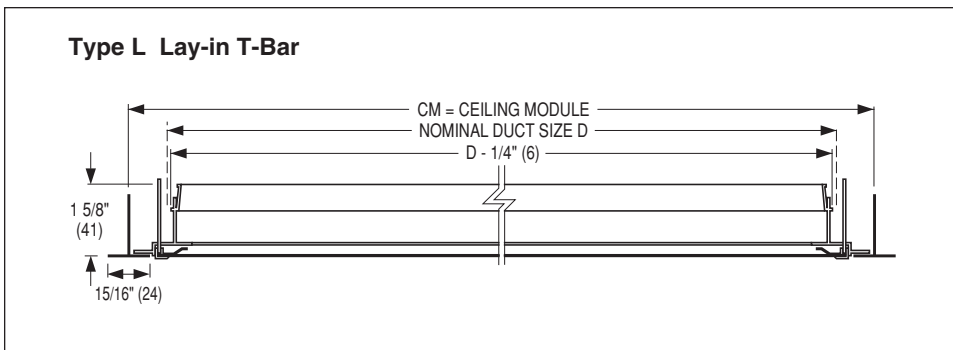


### Available Combinations of Ceiling Module vs. Neck Size

Ceiling Module CM		Nominal Duct Size D			
Imperial Modules	Metric Modules	Round Neck		Square or Rectangular Neck	
		Imperial Units (inches)	Metric Units (mm)	Imperial Units (inches)	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
16 x 16	400 x 400	5, 6, 7, 8, 10, 12	127, 152, 178, 203, 254, 305	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	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
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	152 x 152, 203 x 203, 254 x 254, 305 x 305, 356 x 356, 381 x 381, 406 x 406
24 x 24	600 x 600	5, 6, 7, 8, 10, 12, 14, 15, 16	127, 152, 178, 203, 254, 305, 356, 381, 406	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, 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, 508 x 508, 559 x 559
48 x 24	1200 x 600				

### Models 4330R, 4330RA • Return • Flush Face • Square Neck • Full Size

When duct size = CM - 2" (51).



### Imperial Module & Metric Module Table

Ceiling Module CM		Nominal Duct Size D	
Imperial Modules	Metric Modules	Square or Rectangular Neck	
		Imperial Modules (inches)	Metric Modules (mm)
12 x 12	300 x 300	10 x 10	250 x 250
16 x 16	400 x 400	14 x 14	350 x 350
24 x 12	600 x 300	22 x 10	550 x 250
20 x 20	500 x 500	18 x 18	450 x 450
24 x 24	600 x 600	22 x 22	550 x 550
48 x 24	1200 x 600	46 x 22	1150 x 550

## PERFORMANCE DATA:

### Models 4330R, 4330RA • Flush Face • Return Model

Ceiling Module	Neck Size	Neck Velocity, FPM	300	400	500	600	700	800	1000	1200	1400
		Negative Static Pressure	.024	.042	.067	.096	.13	.17	.266	.383	.522
		Velocity Pressure	.006	.01	.016	.023	.031	.04	.063	.09	.123
12 x 12	10 x 10	Airflow, CFM	208	277	347	416	485	555	694	832	971
		Noise Criteria	—	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
		Noise Criteria	—	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
		Noise Criteria	—	17	23	29	34	39	46	53	58
24 x 24	6" Dia.	Airflow, CFM	59	78	98	118	137	157	196	235	275
		Noise Criteria	—	—	—	10	15	19	26	33	38
	6 x 6	Airflow, CFM	75	100	125	150	175	200	250	300	350
		Noise Criteria	—	—	—	12	17	21	28	35	40
	8" Dia.	Airflow, CFM	105	140	175	209	244	279	349	419	489
		Noise Criteria	—	—	—	14	19	23	30	37	42
	8 x 8	Airflow, CFM	133	178	222	267	311	356	444	533	622
		Noise Criteria	—	—	—	15	20	24	31	38	43
	10" Dia.	Airflow, CFM	164	218	273	327	382	436	545	654	764
		Noise Criteria	—	—	10	16	21	25	32	39	44
	10 x 10	Airflow, CFM	208	278	347	417	486	556	694	833	972
		Noise Criteria	—	—	11	17	22	26	33	40	45
	12" Dia.	Airflow, CFM	236	314	393	471	550	628	785	942	1100
		Noise Criteria	—	—	13	19	24	28	35	42	47
	12 x 12	Airflow, CFM	300	400	500	600	700	800	900	1200	1400
		Noise Criteria	—	—	14	20	25	29	36	43	48
	14" Dia.	Airflow, CFM	321	428	535	641	748	855	1069	1283	1497
		Noise Criteria	—	—	15	21	26	30	37	44	49
	14 x 14	Airflow, CFM	408	544	681	817	953	1089	1361	1633	1906
		Noise Criteria	—	10	17	23	28	32	39	46	51
	15 x 15	Airflow, CFM	469	625	781	938	1094	1250	1563	1875	2188
		Noise Criteria	—	12	19	25	30	34	41	48	53
	16" Dia.	Airflow, CFM	419	559	698	838	977	1117	1396	1676	1955
		Noise Criteria	—	10	17	23	28	32	39	46	51
18 x 18	Airflow, CFM	675	900	1125	1350	1575	1800	2250	2700	3150	
	Noise Criteria	—	16	23	29	34	38	45	52	57	
22 x 22	Airflow, CFM	1007	1344	1679	2015	2352	2688	3359	4031	4704	
	Noise Criteria	—	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
		Noise Criteria	11	20	27	34	38	43	50	57	62

#### Performance Notes:

1. All pressures are in inches w.g..
2. Noise Criteria (NC) values are based upon 10 dB room absorption, re 10<sup>-12</sup> watts. Dash (—) in space indicates an Noise Criteria of less than 20.
3. Data derived from tests conducted in accordance with ANSI/ASHRAE Standard 70 – 2006.

## HOW TO ORDER

### PERFORATED PREMIUM CEILING DIFFUSERS – ARCHITECTURAL QUALITY – MODEL SERIES 4330 AND 4330CB

EXAMPLE: 4330 - RND - 08 - 24 x 24 - L - AW - -

1. **Models**

**Supply:**

**Face Mounted Deflectors**

4330	Steel Face
4330A	Aluminum Face
4330AA	Aluminum Face and Backpan

**Curved Blade Pattern Controllers**

4330CB	Steel Face
4330CBA	Aluminum Face
4330CBAA	Aluminum Face and Backpan

**Return:**

4330R	Steel Face
4330RA	Aluminum Face

2. **Neck Type**

RND	Round
SQR	Square/Rectangular

3. **Neck Size (inches)**

**Round:**

05, 06, 07, 08, 10, 12, 14, 15, 16, 18  
(CB and R only)

**Square or 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 (CB and R only)  
20 x 20, 22 x 22, 46 x 22 (R only)

4. **Ceiling Module Size**

**Imperial (inches)**

12 x 12, 16 x 16, 20 x 20, 24 x 12,  
24 x 24 (default), 48 x 24

**Metric (mm)**

300 x 300, 400 x 400, 500 x 500,  
600 x 300, 600 x 600, 1200 x 600

5. **Frame Type**

L	Lay-in T-Bar (default)
S	Surface Mount

6. **Finish**

AW	Appliance White (default)
AL	Aluminum
BK	Black
BW	British White
MI	Mill
PC	Prime Coat Paint
BA	AW Face/Black Backpan
SP	Special Custom Color

7. **Blow Pattern**

(CB only)	
B4	4-way (default)
B1	1-way
B2	2-way opposite
B3	3-way
C2	2-way corner

**OPTIONS & ACCESSORIES:**

8. **Damper**

– None (default)

**Round Neck:**

4250	Radial Sliding, 6" - 14"
4275	Radial Opposed Blade, 5" - 24"
4675	Butterfly, 6" - 14"

**Square Neck:**

OBD	Opposed Blade, Steel
OBDA	Opposed Blade, Aluminum (AA models only)

9. **Earthquake Tabs**

– None (default)	
EQT	Earthquake Tabs

**OTHER OPTIONS & ACCESSORIES:**

**Air Balancing Devices**

(order separately)

**Round Neck:**

EGR	Equalizing Grid
DEGR	Damper/Equalizing Grid

**Square/Rectangular Neck:**

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

**Notes:**

1. Consult individual models as to limitations of available ceiling module, frame type, neck size and accessories combinations.
2. Dampers are shipped loose for field installation.

**HOW TO SPECIFY**

**SUGGESTED SPECIFICATION:**

Furnish and install **Nailor Model** (select one) **4330** (corrosion-resistant steel face/backpan) or **4330A** (aluminum face/steel backpan) or **4330AA** (aluminum face and backpan) **Premium Architectural Perforated Supply Ceiling Diffusers** of the sizes and capacities as shown on the plans and air distribution schedules. Model 4330 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. Model 4330A shall have an aluminum perforated face and corrosion-resistant steel backpan with a round or square neck as specified, and an extruded aluminum border/frame. Model 4330AA shall have an aluminum perforated face and backpan with a round or square neck as specified, and an extruded aluminum border/frame. 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 be removable and include spring latches allowing easy access for cleaning and adjusting the deflectors (or optional damper). The finish shall be AW Appliance White (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 – 2006.

**SUGGESTED SPECIFICATION:**

Furnish and install **Nailor Model** (select one) **4330CB** (corrosion-resistant steel face/backpan) or **4330CBA** (aluminum face/steel backpan) or **4330CBAA** (aluminum face and backpan) **Premium Architectural Perforated Curved Blade Supply Ceiling Diffusers** of the sizes and capacities as shown on the plans and air distribution schedules. Model 4330CB 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. Model 4330CBA shall have an aluminum perforated face and corrosion-resistant steel backpan with a round or square neck as specified, and an extruded aluminum border/frame. Model 4330CBAA shall have an aluminum perforated face and backpan with a round or square neck as specified, and an extruded aluminum border/frame. 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 be removable and include spring latches allowing easy access for cleaning and adjusting the deflectors (or optional damper). The finish shall be AW Appliance White (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 – 2006.

**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 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. The face shall be removable and include spring latches allowing easy access for cleaning. The finish shall be AW Appliance White (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 – 2006.

**D**  
**CEILING DIFFUSERS**

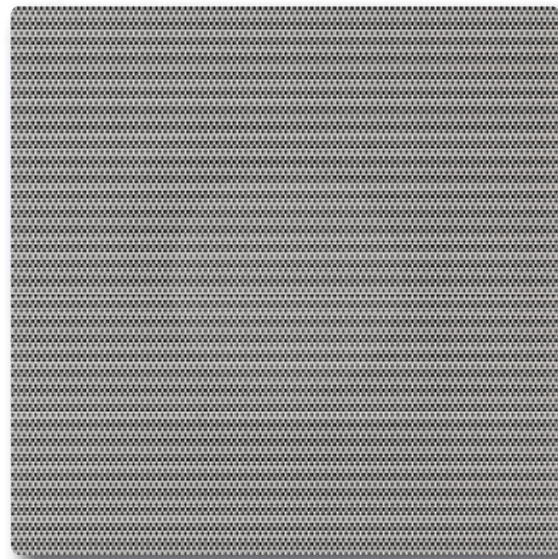
## ALL ALUMINUM PERFORATED CEILING DIFFUSERS

- 100 % ALUMINUM CONSTRUCTION
- SUITABLE FOR MRI ROOMS
- SUPPLY AND RETURN

### Models:

4310A Supply

4310AR Return



Model 4310A

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.

Model 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.

Model 4310AR Perforated Return Diffuser is designed to match the supply model but omits the pattern deflector. It is suitable for ducted return applications.

### STANDARD 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.

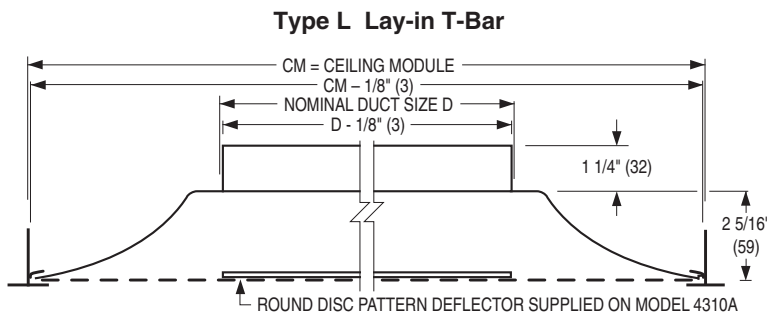
### CONSTRUCTION MATERIAL:

100% all aluminum construction.

### FINISH OPTIONS:

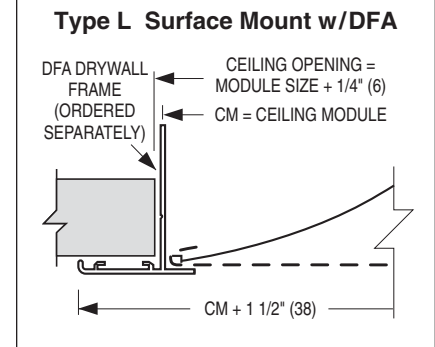
AW Appliance White finish is standard. Other finishes are available.

D  
CEILING DIFFUSERS



### Available Combinations of Ceiling Module vs. Neck Size

Ceiling Module CM		Nominal Duct Size D	
Imperial Modules	Metric Modules	Round Neck	
		Imperial Modules (inches)	Metric Modules (mm)
24 x 24	600 x 600	6, 8, 10, 12, 14, 15	152, 203, 254, 305, 356, 381



## PERFORMANCE DATA:

### Model 4310A • 24 x 24 (600 x 600) Module Size

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	<b>60</b>	<b>80</b>	<b>100</b>	<b>120</b>	<b>140</b>	<b>160</b>	<b>180</b>	<b>195</b>	<b>235</b>	<b>275</b>
	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
	Noise Criteria	—	—	16	18	20	22	24	26	31	37
8" Dia.	Total Pressure	.009	.015	.024	.034	.046	.061	.077	.095	.136	.185
	Airflow, CFM	<b>105</b>	<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>
	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
	Noise Criteria	—	—	18	21	24	27	31	34	39	46
10" Dia.	Total Pressure	.013	.023	.037	.053	.072	.094	.119	.147	.211	.288
	Airflow, CFM	<b>165</b>	<b>220</b>	<b>270</b>	<b>325</b>	<b>380</b>	<b>435</b>	<b>490</b>	<b>585</b>	<b>655</b>	<b>765</b>
	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
	Noise Criteria	—	—	19	22	25	28	33	36	41	48
12" Dia.	Total Pressure	.016	.031	.049	.070	.095	.125	.158	.195	.260	.382
	Airflow, CFM	<b>235</b>	<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>
	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
	Noise Criteria	—	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	<b>320</b>	<b>430</b>	<b>535</b>	<b>640</b>	<b>750</b>	<b>855</b>	<b>960</b>	<b>1070</b>	<b>1285</b>	<b>1495</b>
	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
	Noise Criteria	—	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	<b>370</b>	<b>490</b>	<b>615</b>	<b>735</b>	<b>860</b>	<b>980</b>	<b>1105</b>	<b>1230</b>	<b>1475</b>	<b>1720</b>
	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
	Noise Criteria	—	17	23	29	34	37	41	45	51	55

#### 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. Noise Criteria (NC) values are based upon 10 dB room absorption, re 10<sup>-12</sup> watts. Dash (—) in space indicates an Noise Criteria of less than 15.
4. Data derived from tests conducted in accordance with ANSI/ASHRAE Standard 70 – 2006.

#### 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.

## HOW TO SPECIFY OR TO ORDER

### PERFORATED ALL ALUMINUM CEILING DIFFUSERS, MRI – MODEL SERIES 4310A

EXAMPLE: 4310A - 08 - 24 x 24 - L - AW

- |  |   |   |
|--|---|---|
| <p>1. <b>Models</b><br/> <b>Supply:</b><br/>                 4310A<br/> <b>Return:</b><br/>                 4310AR</p> <p>2. <b>Neck Size (inches)</b><br/> <b>Round:</b><br/>                 06, 08, 10, 12, 14, 15</p> <p>3. <b>Ceiling Module Size</b><br/> <b>Imperial (inches)</b><br/>                 24 x 24 (default)<br/> <b>Metric (mm)</b><br/>                 600 x 600</p> <p>4. <b>Frame Type</b><br/>                 L Lay-in T-Bar (default)</p> | <p>5. <b>Finish</b><br/>                 AW Appliance White (default)<br/>                 AL Aluminum<br/>                 BK Black<br/>                 BW British White<br/>                 MI Mill<br/>                 PC Prime Coat Paint<br/>                 BA AW Face/Black Backpan<br/>                 SP Special Custom Color</p> | <p><b>Notes:</b><br/>                 1. Consult individual models as to limitations of available ceiling module, frame type, neck size and accessories combinations.</p> |
|--|---|---|

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 (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 – 2006.

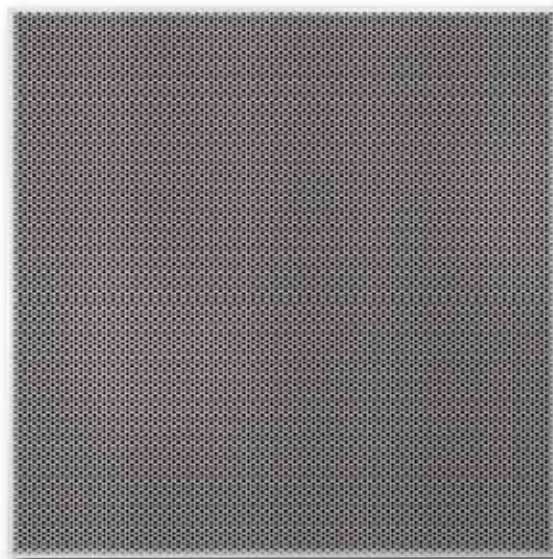
**Model 4310AR**  
 Furnish and install **Nailor Model 4310AR All Aluminum Perforated Return Ceiling Diffusers** of the sizes and capacities as shown on the plans and air distribution schedules. The diffuser shall have a die-formed aluminum backpan with an integral round neck. An aluminum perforated 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 (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 – 2006.



## PERFORATED RETURN AIR DIFFUSERS

- MATCH AND COMPLIMENT SUPPLY MODELS
- SUITABLE FOR DUCTED RETURN APPLICATIONS



Model 4360

### 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

Model Series 4360 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.

Model Series 4360 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.

Model Series 4365 features a drop (extended) face panel that both matches in appearance the drop face supply models and compliments tegular tile ceiling systems, allowing the perforated face panel to remain flush with the ceiling line.

### STANDARD 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.

### CONSTRUCTION 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 OPTIONS:

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

### OPTIONS & ACCESSORIES:

#### Round Neck:

- 4250 Radial Sliding Blade Damper 6" – 14" (152 – 356).
- 4275 Radial Opposed Blade Damper 5" – 24" (127 – 610).
- 4675 Butterfly Damper 6" – 14" (152 – 356).
- MIB Molded Insulation Blanket, R-6.0.

#### Square Neck:

- OBD Opposed Blade Damper (Steel)
- OBDA Opposed Blade Damper (Aluminum) (-AA models only)

### OTHER OPTIONS & ACCESSORIES:

- EX External Foil-Back Insulation (installed) -R-4.2.
- EXB External Foil-Back Insulation (loose) -R-4.2.
- EQT Earthquake Tabs

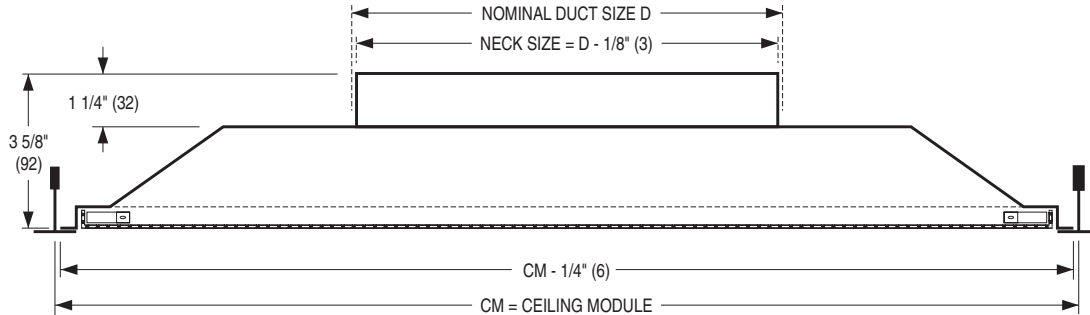
For additional options and accessories; see page D255.

## DIMENSIONAL DATA AND FRAME TYPES:

### Models 4360, 4360A, 4360AA • Return • Flush Face • Round Neck

All round ducts and square ducts when duct size is less than CM – 2" (51).

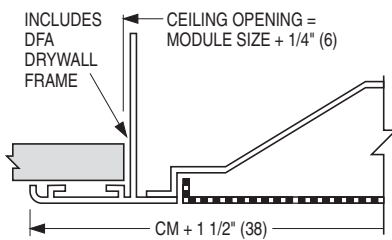
#### Type L Lay-in T-Bar



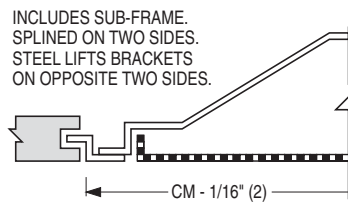
#### Available Combinations of Ceiling Module vs. Neck Size

Ceiling Module CM		Nominal Duct Size D	
Imperial Modules	Metric Modules	Round Neck	
		Imperial Units (inches)	Metric Units (mm)
12 x 12	300 x 300	6, 8	152, 203
16 x 16	400 x 400	6, 8, 10, 12	152, 203, 254, 305
24 x 12	600 x 300	6, 8	152, 203
20 x 20	500 x 500	6, 8, 10, 12, 14	152, 203, 254, 305, 356
24 x 24	600 x 600	6, 8, 10, 12, 14, 15, 16, 18	152, 203, 254, 305, 356, 381, 406, 457
48 x 24	1200 x 600	6, 8, 10, 12, 14, 15, 16, 18	152, 203, 254, 305, 356, 381, 406, 457

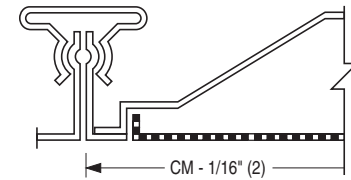
#### Type S Surface Mount



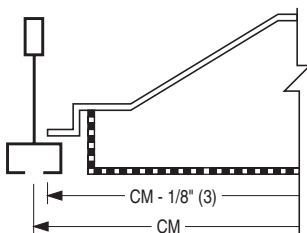
#### Type SP Spline



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



#### Type F Fineline® T-Bar

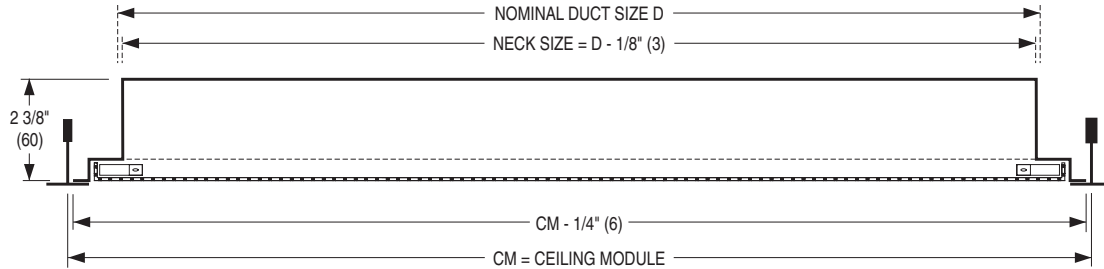


## DIMENSIONAL DATA AND FRAME TYPES:

Models 4360, 4360A, 4360AA • Return • Flush Face • Square or Rectangular Neck

When duct size is = CM - 2" (51).

### Type L Lay-in T-Bar



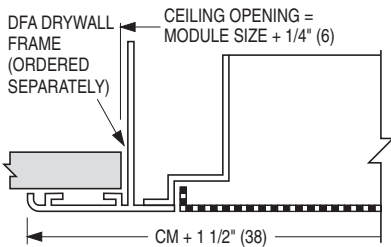
### Available Combinations of Ceiling Module vs. Neck Size

Ceiling Module CM		Nominal Duct Size D	
Imperial Modules	Metric Modules	Square/Rectangular Neck	
		Imperial Units (inches)	Metric Units (mm)
12 x 12	300 x 300	6 x 6, 8 x 8	152 x 152, 203 x 203
16 x 16	400 x 400	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 x 6, 8 x 8, 18 x 6	152 x 152, 203 x 203, 457 x 152
20 x 20	500 x 500	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 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	152 x 152, 203 x 203, 254 x 254, 305 x 305, 356 x 356, 381 x 381, 406 x 406, 457 x 457
48 x 24	1200 x 600		

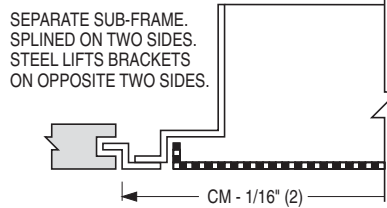
### Imperial & Metric Module Table

Ceiling Module CM		Nominal Duct Size D	
Imperial Modules	Metric Modules	Square Neck	
		Imperial Modules (inches)	Metric Modules (mm)
12 x 12	300 x 300	10 x 10	250 x 250
24 x 12	600 x 300	22 x 10	550 x 250
20 x 20	500 x 500	18 x 18	450 x 450
24 x 24	600 x 600	22 x 22	550 x 550
48 x 24	1200 x 600	46 x 22	1150 x 550

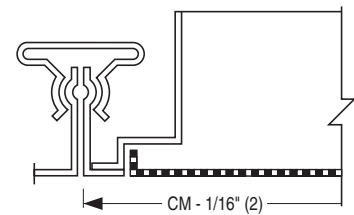
### Type S Surface Mount



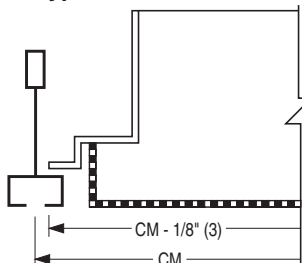
### Type SP Spline



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



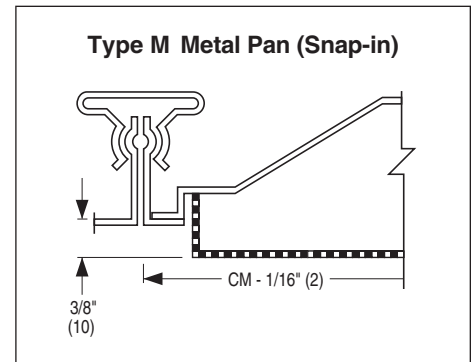
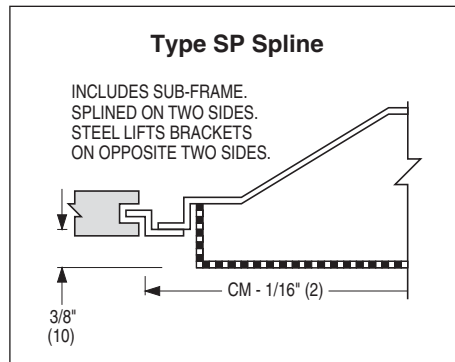
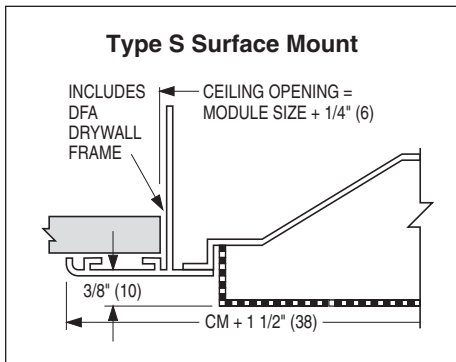
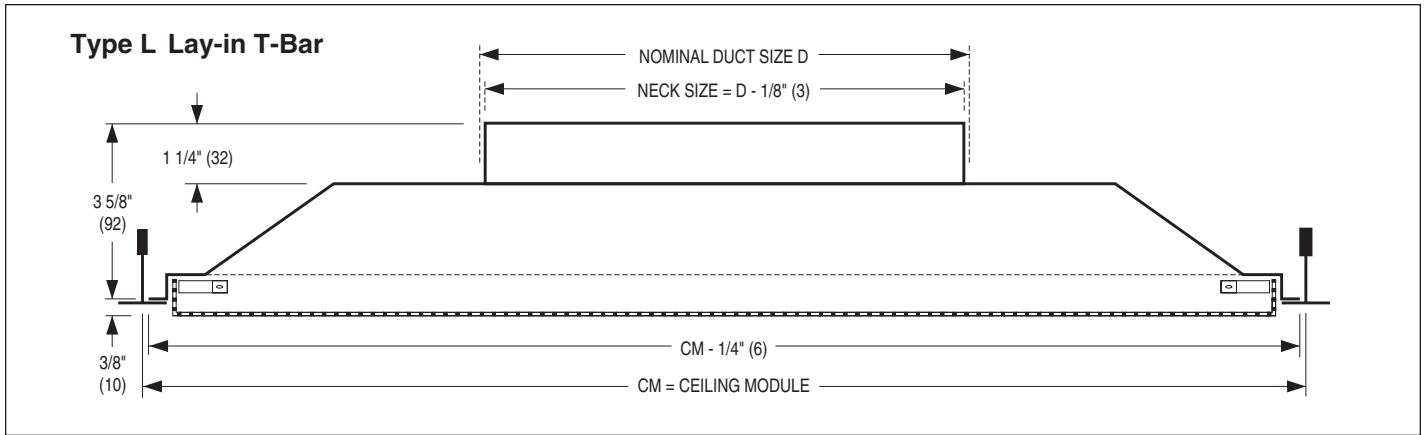
### Type F Finline® T-Bar



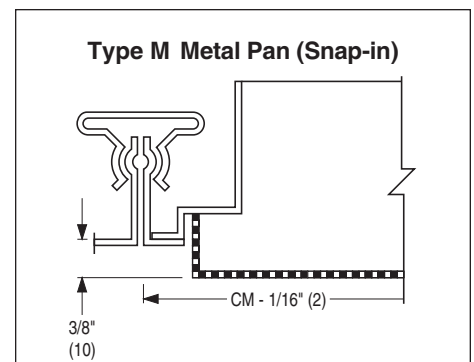
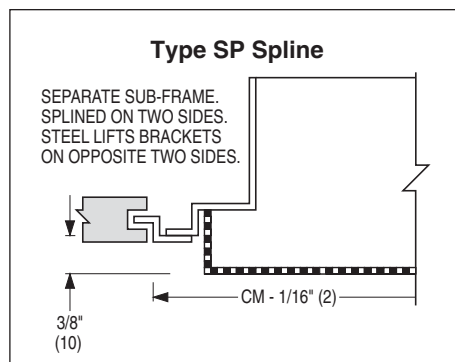
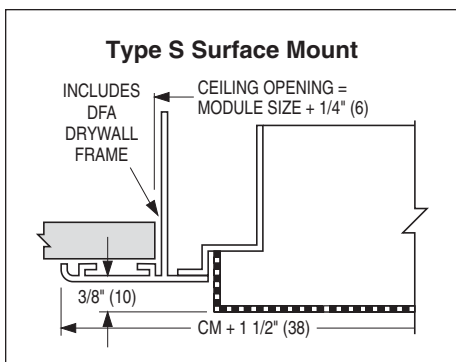
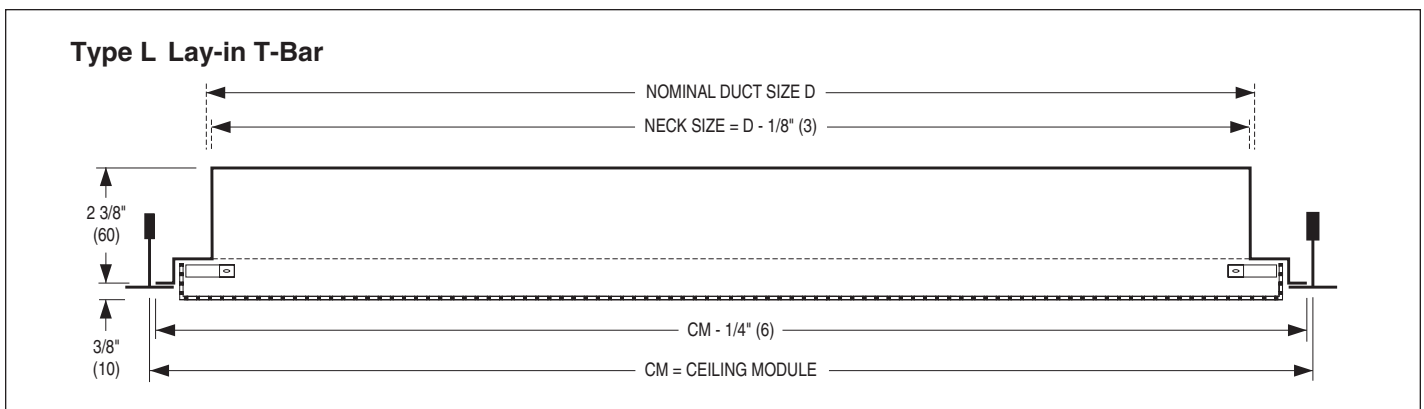
Finline® is a registered trademark of USG Interiors Inc.

## DIMENSIONAL DATA AND FRAME TYPES:

**Models 4365, 4365A, 4365AA • Return • Drop Face • Round, Square or Rectangular Neck**  
 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 is = CM – 2" (51).



D  
CEILING DIFFUSERS

## 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 Static Pressure	.024	.042	.067	.096	.130	.170	.266	.383	.522	
		Velocity Pressure	.006	.010	.016	.022	.031	.040	.062	.090	.122	
12 x 12	6" Dia.	Airflow, CFM	59	78	98	118	137	157	196	236	275	
		Noise Criteria	—	—	—	10	14	18	27	32	38	
	8 x 8	Airflow, CFM	75	100	125	150	175	200	250	300	350	
		Noise Criteria	—	—	—	12	17	21	30	35	41	
	8" Dia.	Airflow, CFM	105	140	175	209	244	279	349	419	489	
		Noise Criteria	—	—	10	16	21	25	32	39	44	
	8 x 8	Airflow, CFM	133	178	222	267	311	356	444	533	622	
		Noise Criteria	—	—	11	17	22	26	33	40	45	
	10 x 10	Airflow, CFM	208	278	347	416	486	556	694	833	972	
		Noise Criteria	—	—	18	24	29	33	40	47	52	
	20 x 20	18 x 18	Airflow, CFM	675	900	1125	1350	1575	1800	2250	2700	3150
			Noise Criteria	—	17	24	30	35	39	46	53	58
24 x 12	6" Dia.	Airflow, CFM	75	100	125	150	175	200	250	300	350	
		Noise Criteria	—	—	—	13	18	22	29	36	41	
	8" Dia.	Airflow, CFM	105	140	175	209	244	279	349	419	489	
		Noise Criteria	—	—	—	15	20	24	31	38	43	
	8 x 8	Airflow, CFM	133	178	222	267	311	356	444	533	622	
		Noise Criteria	—	—	10	16	21	25	32	39	44	
	18 x 6	Airflow, CFM	225	300	375	450	525	600	750	900	1050	
		Noise Criteria	—	—	14	20	25	28	35	42	47	
	22 x 10	Airflow, CFM	458	611	764	917	1069	1222	1528	1833	2139	
		Noise Criteria	—	15	21	27	34	37	44	51	56	
	24 x 24	6" Dia.	Airflow, CFM	59	79	98	118	137	157	196	236	275
			Noise Criteria	—	—	—	10	15	19	26	33	38
6 x 6		Airflow, CFM	75	100	125	150	175	200	250	300	350	
		Noise Criteria	—	—	—	12	17	21	28	35	41	
8" Dia.		Airflow, CFM	105	140	175	209	244	279	349	419	489	
		Noise Criteria	—	—	—	14	19	23	30	37	42	
8 x 8		Airflow, CFM	133	178	222	267	311	356	444	533	622	
		Noise Criteria	—	—	—	15	20	24	31	38	43	
10" Dia.		Airflow, CFM	164	218	273	327	382	436	545	655	764	
		Noise Criteria	—	—	10	16	21	25	32	39	44	
10 x 10		Airflow, CFM	208	278	347	417	486	556	694	833	972	
		Noise Criteria	—	—	11	17	22	26	33	40	45	
12" Dia.		Airflow, CFM	236	314	393	471	550	628	785	942	1100	
		Noise Criteria	—	—	13	19	24	28	35	42	47	
12 x 12		Airflow, CFM	300	400	500	600	700	800	1000	1200	1400	
		Noise Criteria	—	—	14	20	25	29	36	43	48	
14" Dia.		Airflow, CFM	321	428	535	641	748	855	1069	1283	1497	
		Noise Criteria	—	—	15	21	26	30	37	44	49	
14 x 14		Airflow, CFM	408	544	681	817	953	1089	1361	1633	1906	
		Noise Criteria	—	10	17	23	28	32	39	46	51	
15 x 15		Airflow, CFM	469	625	781	938	1094	1250	1563	1875	2188	
		Noise Criteria	—	12	19	25	30	34	41	48	53	
16" Dia.		Airflow, CFM	419	559	698	838	977	1117	1396	1676	1955	
		Noise Criteria	—	10	17	23	28	32	39	46	51	
18" Dia.	Airflow, CFM	530	707	884	1060	1237	1414	1767	2121	2474		
	Noise Criteria	—	12	19	25	30	32	39	46	51		
18 x 18	Airflow, CFM	675	900	1125	1350	1575	1800	2250	2700	3150		
	Noise Criteria	—	16	23	29	34	38	45	52	57		
22 x 22	Airflow, CFM	1008	1344	1681	2017	2353	2689	3361	4033	4706		
	Noise Criteria	—	18	25	31	36	40	47	51	59		
48 x 24	46 x 22	Airflow, CFM	2108	2811	3514	4217	4919	5622	7028	8433	9839	
		Noise Criteria	11	20	27	34	38	43	50	57	62	

### Performance Notes:

- All pressures are in inches w.g..
- Noise Criteria (NC) values are based

upon 10 dB room absorption, re 10<sup>-12</sup> watts. Dash (—) in space indicates an Noise Criteria of less than 10.

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

## HOW TO ORDER

### PERFORATED RETURN CEILING DIFFUSERS – MODEL SERIES 4360

**EXAMPLE: 4360 - RND - 08 - 24 x 24 - L - AW - -**

**1. Models**

- 4360 Steel, Flush Face
- 4365 Steel, Drop Face
- 4360A Aluminum Face, Flush
- 4365A Aluminum Face, Drop
- 4360AA Aluminum Face and Backpan, Flush
- 4365AA Aluminum Face and Backpan, Drop

**2. Neck Type**

- RND Round
- SQR Square/Rectangular

**3. Neck Size (inches)**

**Round:**

06, 08, 10, 12, 14, 15, 16, 18

**Square or 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  
22 x 10, 22 x 22, 46 x 22

**4. Ceiling Module Size**

**Imperial (inches)**

12 x 12, 16 x 16, 20 x 20, 24 x 12,  
24 x 24 (default), 48 x 24

**Metric (mm)**

300 x 300, 400 x 400, 500 x 500,  
600 x 300, 600 x 600, 1200 x 600

**5. Frame Type**

- L Lay-in T-Bar (default)
- S Surface Mount
- SP Spline
- M Metal Pan (Snap-in)
- F Finline®

**6. Finish**

- AW Appliance White (default)
- AL Aluminum
- BK Black
- BW British White
- MI Mill
- PC Prime Coat Paint
- BA AW Face/Black Backpan
- SP Special Custom Color

**OPTIONS & ACCESSORIES:**

**7. Damper**

- None (default)

**Round Neck:**

- 4250 Radial Sliding, 6" - 14"
- 4275 Radial Opposed Blade, 5" - 24"
- 4675 Butterfly, 6" - 14"

**Square Neck:**

- OBD Opposed Blade, Steel
- OBDA Opposed Blade, Aluminum  
(AA models only)

**8. External Insulation**

- None (default)
- EX Foil-back (installed), R-4.2
- EXB Foil-back (loose), R-4.2
- MIB Molded Insulation Blanket, R-6.0

**9. Earthquake Tabs**

- None (default)
- EQT Earthquake Tabs

**OTHER OPTIONS & ACCESSORIES:**

**Air Balancing Devices**

(order separately)

**Round Neck:**

- EGR Equalizing Grid
- DEGR Damper/Equalizing Grid

**Square/Rectangular Neck:**

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

**Notes:**

1. Consult individual models as to limitations of available ceiling module, frame type, neck size and accessories combinations.
2. Dampers are shipped loose for field installation.
3. EX and EXB is (Ceiling Module - 2"). Maximum size 24" x 24" (600 x 600). MIB available on 24" x 24" (600 x 600) round neck only.

## HOW TO SPECIFY OR TO ORDER

**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 (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 – 2006.

**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 (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 – 2006.

**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 (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 – 2006.

## PERFORATED RETURN AIR PANELS

- SUITABLE FOR DUCTLESS (PLENUM) RETURN AIR APPLICATIONS

### Steel Models:

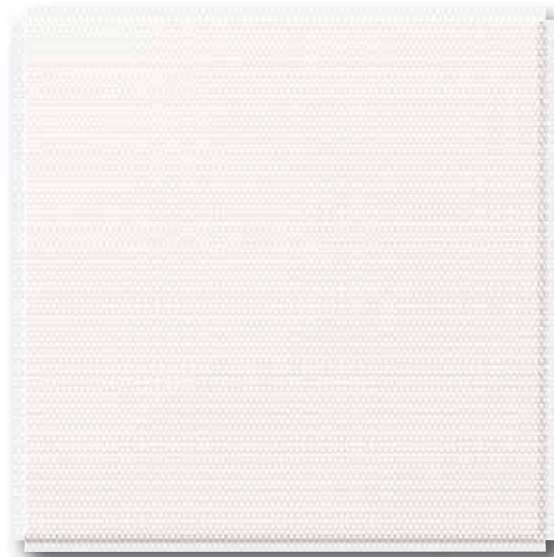
4302 Flush Face

4302-DF Drop Face

4302-F Fineline®

### Aluminum Model:

4302A Flush Face



Model 4302-DF

Model Series 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.

### STANDARD FEATURES:

- Perforated face with 3/16" (5) diameter holes on staggered 1/4" (6) centers, providing 51% free area.
- Edges of panel are turned up for strength.

### CONSTRUCTION MATERIAL:

Heavy gauge corrosion-resistant steel or aluminum.

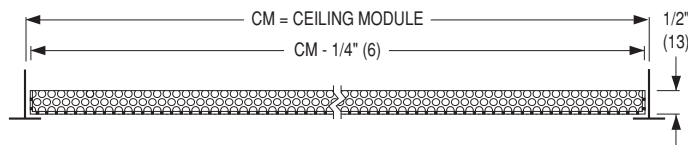
### FINISH OPTIONS:

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

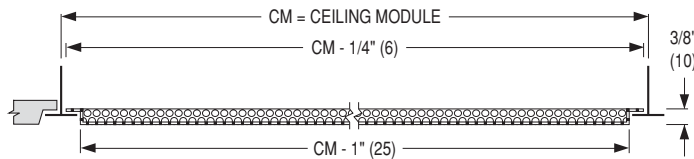
### Available Ceiling Module Sizes

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



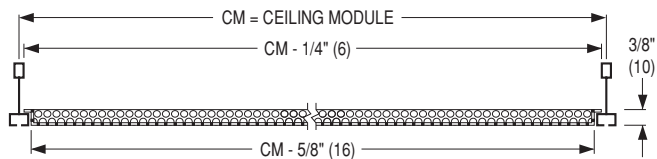
### Model 4302-DF Drop Face Lay-in T-Bar



### 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





## PERFORMANCE DATA:

### Models 4302, 4302-DF, 4302-F, 4302A • Return Panel

Ceiling Module	Neck Velocity, FPM	200	300	400	500	600	700	800	900	1000
	Negative Static Pressure	.013	.029	.051	.080	.115	.157	.205	.259	.320
	Velocity Pressure	.002	.006	.010	.016	.023	.031	.040	.050	.063
12 x 12	Airflow, CFM	200	300	400	500	600	700	800	900	1000
	Noise Criteria	—	—	27	34	40	45	49	52	57
20 x 20	Airflow, CFM	556	833	1111	1389	1667	1944	2222	2500	2778
	Noise Criteria	—	—	24	30	37	42	46	49	54
24 x 12	Airflow, CFM	400	600	800	1000	1200	1400	1600	1800	2000
	Noise Criteria	—	17	27	32	39	44	48	52	56
24 x 24	Airflow, CFM	800	1200	1600	2000	2400	2800	3200	3600	4000
	Noise Criteria	—	16	24	31	37	41	45	48	53
48 x 24	Airflow, CFM	1600	2400	3200	4000	4800	5600	6400	7200	8000
	Noise Criteria	—	18	27	33	39	44	48	51	56

### Performance Notes:

1. All pressures are in inches w.g..
2. Noise Criteria (NC) values are based upon 10 dB room absorption, re 10<sup>-12</sup> watts. Dash (—) in space indicates an Noise Criteria of less than 15.
3. Data derived from tests conducted in accordance with ANSI/ASHRAE Standard 70 – 2006.

## HOW TO SPECIFY OR TO ORDER

### PERFORATED RETURN CEILING DIFFUSERS, PANELS, DUCTLESS – MODEL SERIES 4302

**EXAMPLE: 4302 - 24 x 24 - L - AW**

- |  |  |   |
|--|--|---|
| <p><b>1. Models</b></p> <ul style="list-style-type: none"> <li>4302 Steel</li> <li>4302A Aluminum</li> <li>4302-DF Steel, Drop Face</li> <li>4302-F Steel, Fineline® Type</li> </ul> <p><b>2. Ceiling Module Size</b></p> <p><b>Imperial (inches)</b></p> <p>12 x 12, 16 x 16, 20 x 20, 24 x 12, 24 x 24 (default), 48 x 24</p> <p><b>Metric (mm)</b></p> <p>300 x 300, 400 x 400, 500 x 500, 600 x 300, 600 x 600, 1200 x 600</p> | <p><b>3. Frame Type</b></p> <ul style="list-style-type: none"> <li>L Lay-in T-Bar (default)</li> <li>F Fineline®</li> </ul> <p><b>4. 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>MI Mill</li> <li>PC Prime Coat Paint</li> <li>SP Special Custom Color</li> </ul> | <p><b>Notes:</b></p> <p>1. Consult individual models as to limitations of available ceiling module, frame type, neck size and accessories combinations.</p> |
|--|--|---|

D  
CEILING DIFFUSERS

**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 (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 – 2006.

**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 (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 – 2006.

**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 (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 – 2006.

## 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

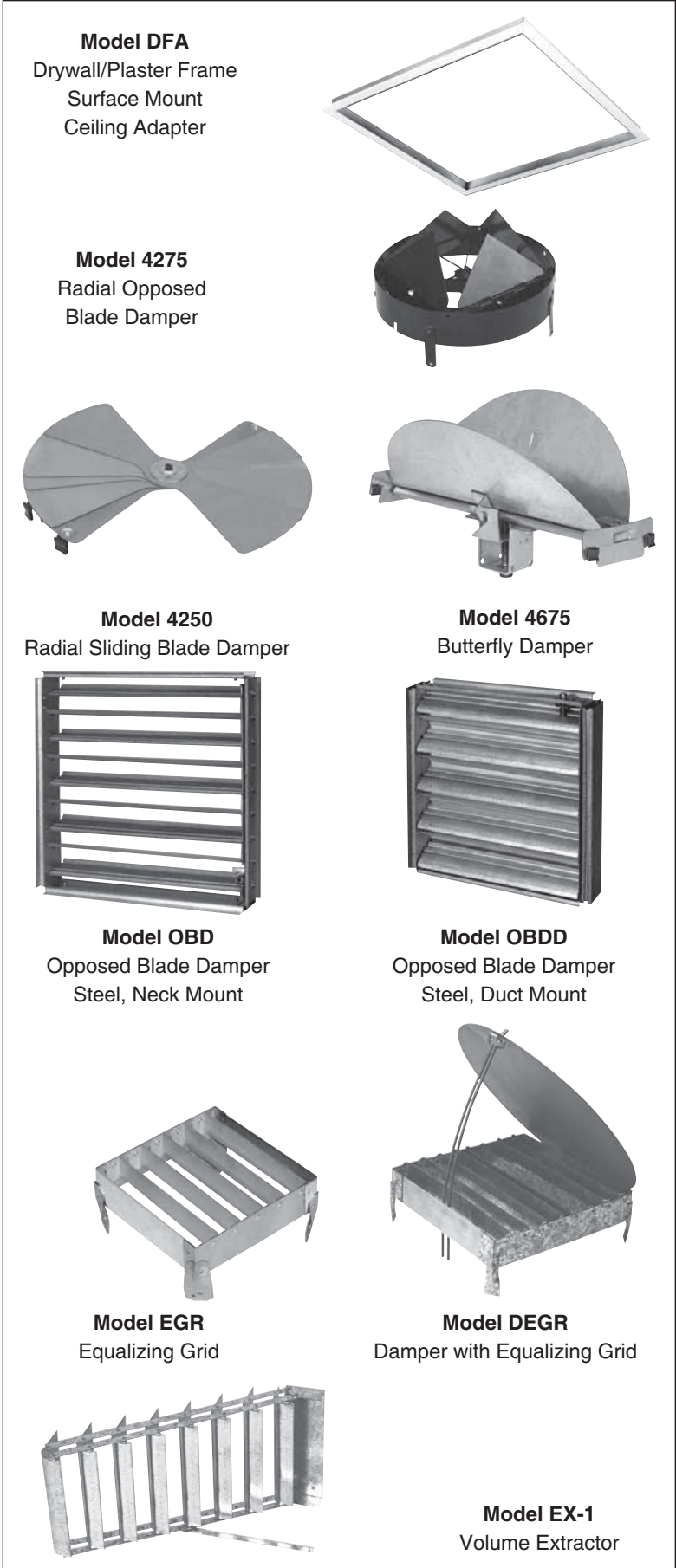
- Dampers for round and square necks.
- Equalizing grids.
- Volume extractors.

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.



## Mounting Frames

### 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.

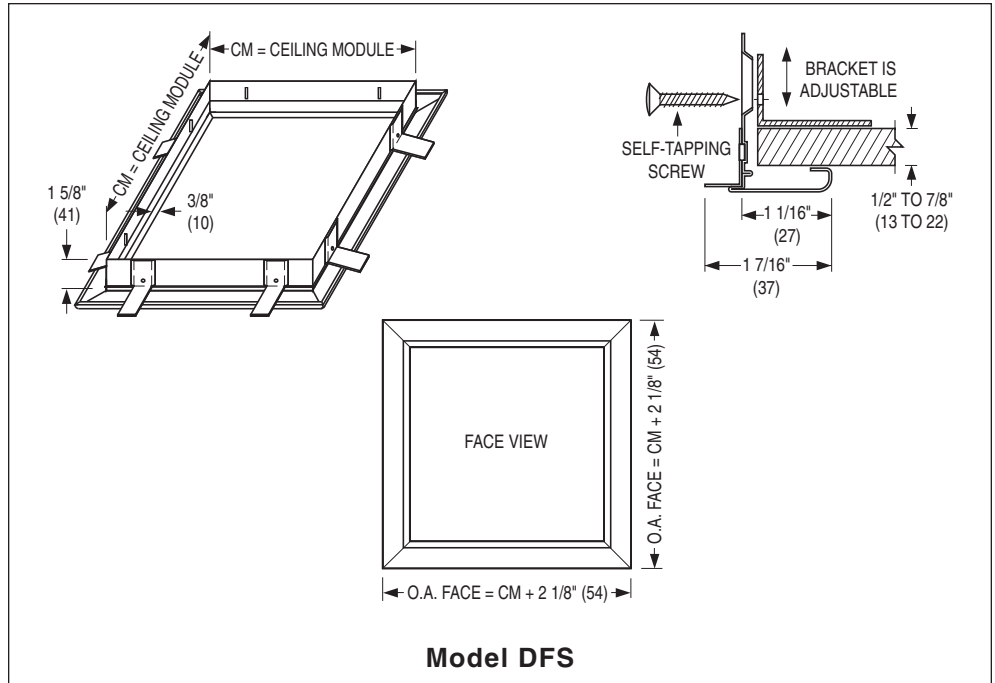
A major benefit is that the DF Series allows access to the ceiling plenum space above for maintenance purposes without the need for separate access doors. The finished appearance is professional and aesthetically pleasing.

**Standard Finish:** AW Appliance White. 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

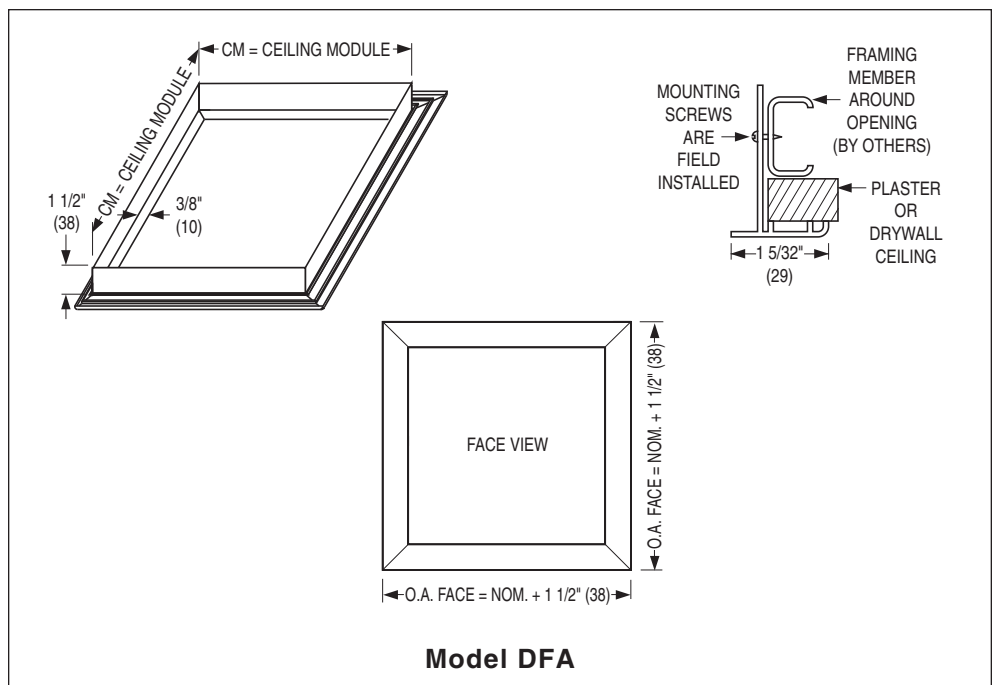
Ceiling opening = CM + 1/4" (6)



**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 1219	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

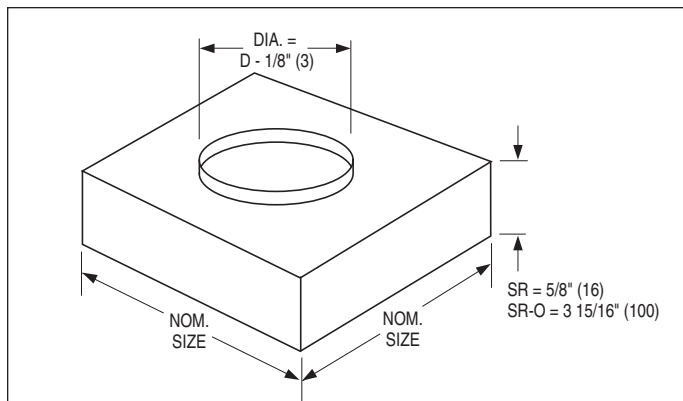
An optional safety chain is available on all of Nailor's round ceiling diffusers.

#### GK Foam Gaskets

Foam gasket is available on a selection of surface mount diffusers.

#### SR Square to Round Transition Collar

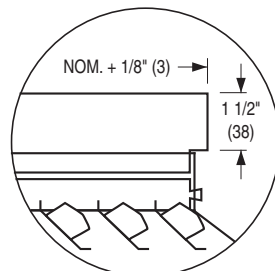
Transition collars are for use on Nailor square neck diffusers where a round duct connection is required. Round necks are sized for flexible or hard duct connection. SR's are shipped loose for field installation and are supplied with barbed S clips.



Square Neck Size (inches)	Round Neck Size D (inches)
6 x 6	4, 5, 6
8 x 8	4, 5, 6, 7, 8
9 x 9	6, 7, 8, 9
10 x 10	6, 7, 8, 9, 10
12 x 12	6, 8, 9, 10, 12
14 x 14	6, 8, 9, 10, 12, 14
15 x 15	6, 8, 10, 12, 14, 15
16 x 16	6, 8, 10, 12, 14, 15, 16
18 x 18	6, 8, 10, 12, 14, 15, 16, 18
20 x 20	6, 8, 10, 12, 14, 15, 16, 18, 20
21 x 21	6, 8, 10, 12, 14, 15, 16, 18, 20
22 x 22	6, 8, 10, 12, 14, 16, 18, 20
24 x 24	6, 8, 10, 12, 14, 15, 16, 18, 20, 24

#### ONA Offset Neck Adaptor

Fits outside duct (if a damper is required; order separately for remote mount. See Model OBDD).



### 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:

#### 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).

#### BW British White

Matches most white ceiling tiles. (No 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)

### ALSO AVAILABLE:

#### MI Mill Finish

(No additional cost).

#### PPA Paint Prepared Aluminum (Washed only)

Aluminum models only. (No additional cost).

#### PC Prime Coat Paint

(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.

**Model 4275**

	Nominal size (inches)							Nominal Size (mm)								
	5	6	8	10	12	14	15	16	127	152	203	254	305	356	381	406
<b>A</b>	4 7/8	5 7/8	7 7/8	9 7/8	11 7/8	13 7/8	14 7/8	15 7/8	124	149	200	251	302	352	378	403
<b>B</b>	1 1/8	1 5/8	2 1/2	2 1/4	2 7/8	3 3/8	3 3/4	4 3/8	29	41	64	57	73	86	95	111
<b>C</b>	1 5/8			2 1/2				41				64				

### 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).

**Model 4250**

### 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.

**Model 4675**

	Nominal Size (inches)					Nominal size (mm)				
	6	8	10	12	14	152	203	254	305	356
<b>A</b>	5 7/8	7 7/8	9 7/8	11 7/8	13 7/8	149	200	251	302	352
<b>B</b>	2 1/2	3 1/2	4 1/2	5 1/2	6 1/2	64	89	114	140	165

## 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. Mill finish.

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**

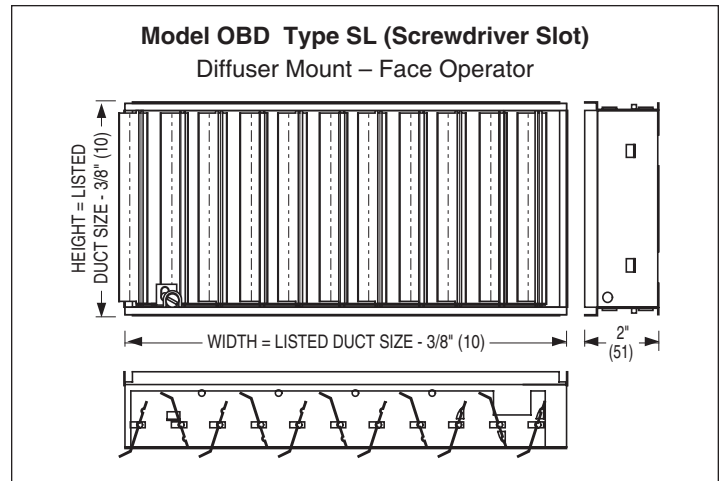
This style of damper mounts directly on the neck and are sized to suit most **Nailor** diffusers. Uses steel barbed S-clips for easy field mounting or removal when ordered separately. Supplied as standard with a screwdriver slot operator (Type SL).

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.

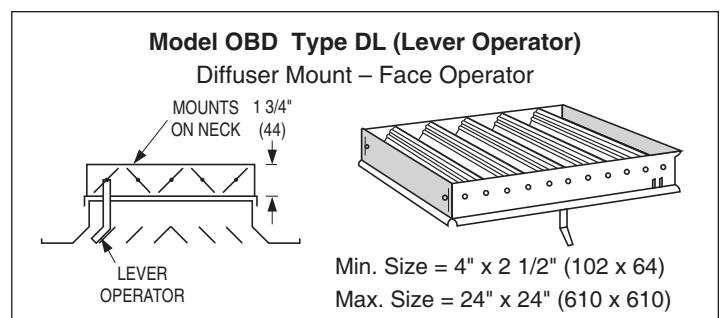
#### Type SL Operator

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:

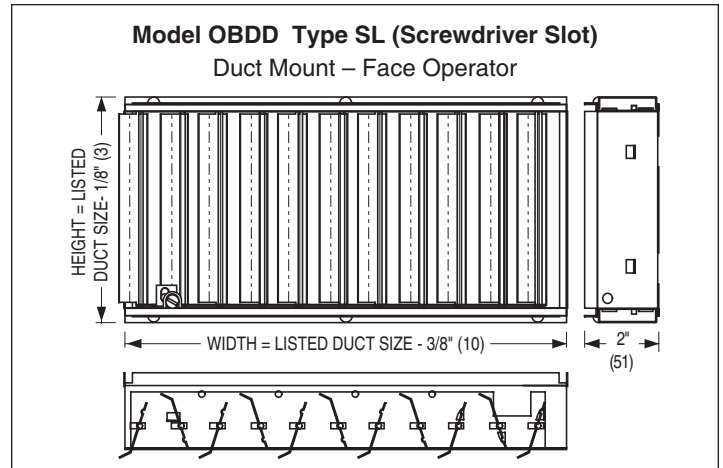
**OBDD Steel**

**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).

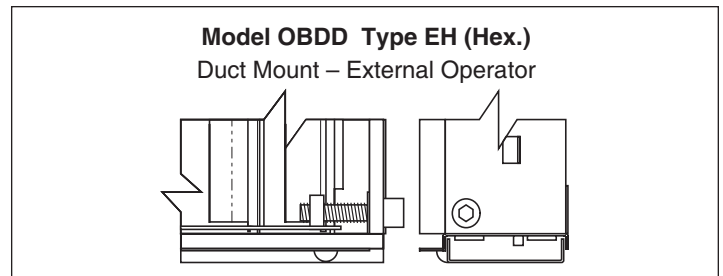
### Type SL Operator

These models are supplied with a screwdriver slot face operator that is accessed from inside the duct by removing the diffuser.



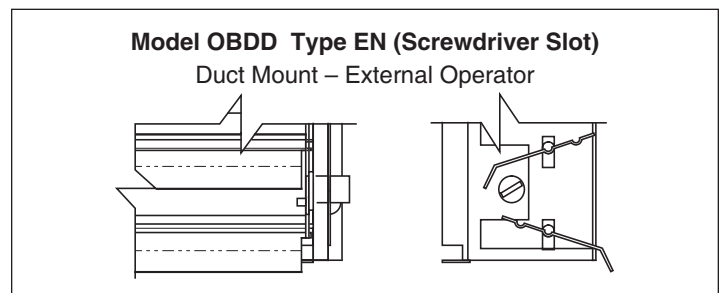
### Type EH Operator

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.



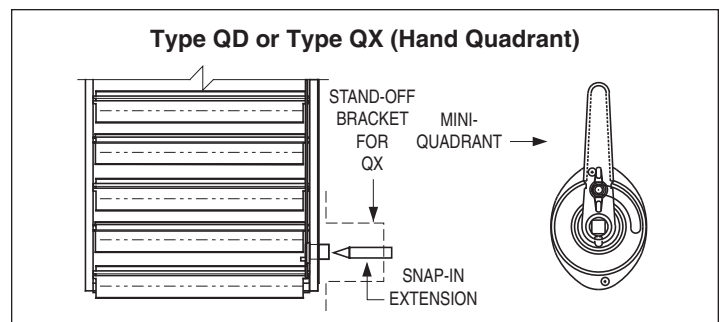
### Type QD Operator \*

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



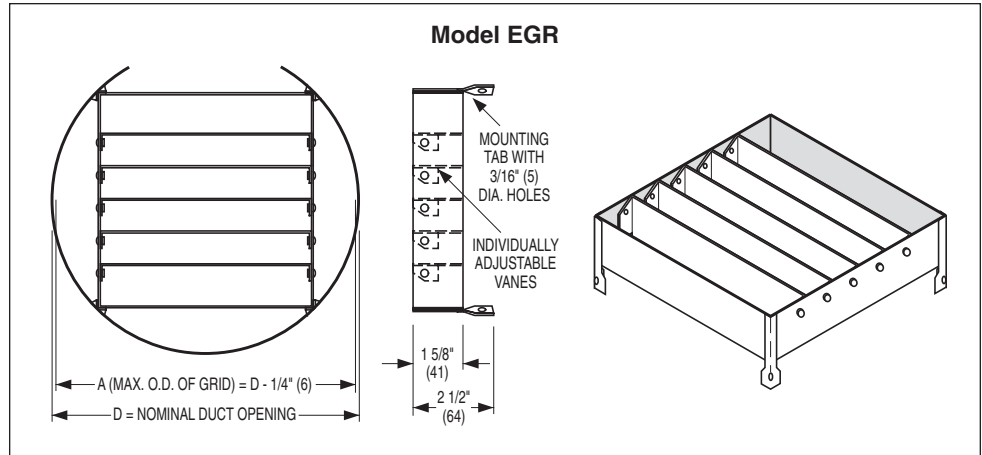


## Air Balancing and Directional Control Devices

### 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.

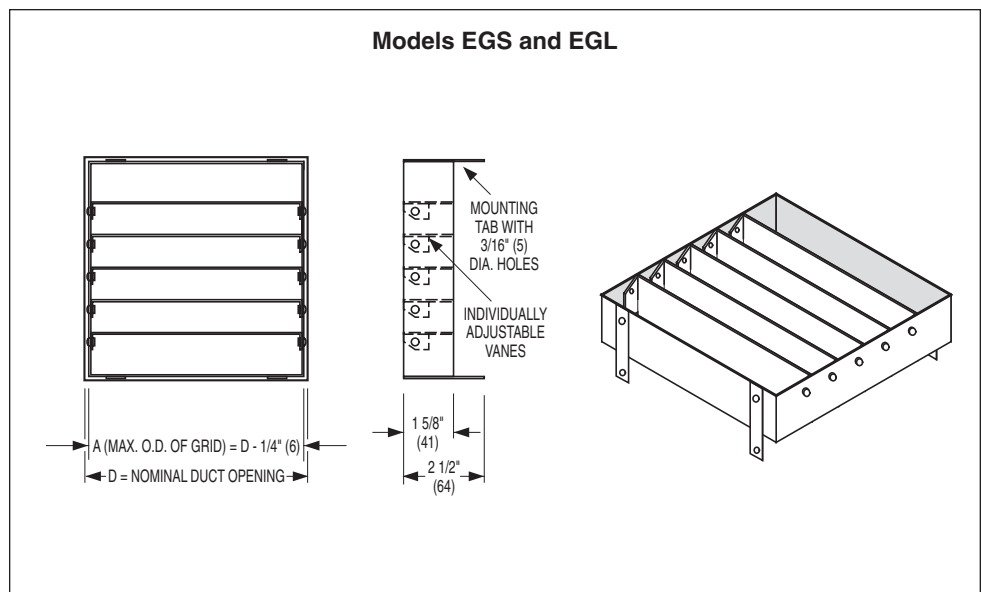


### Equalizing Grid for Square and Rectangular Necks

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.



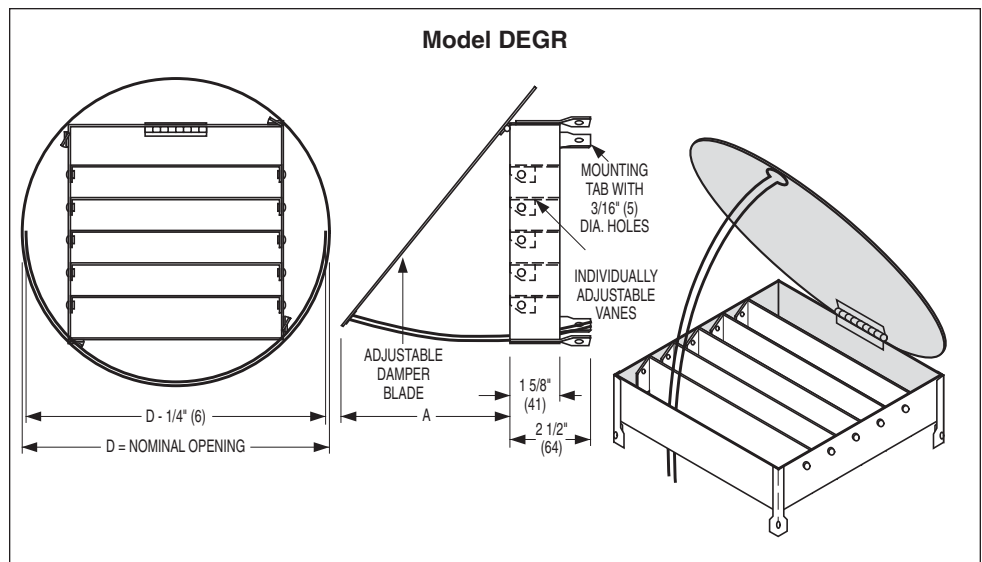
### Damper with Equalizing Grid for Round Necks

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**

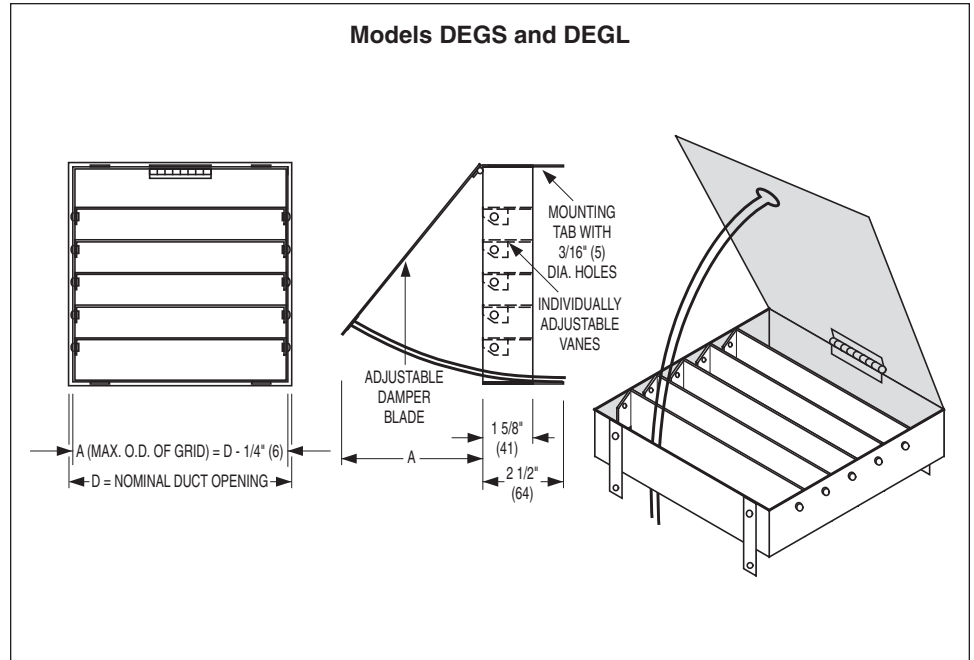
**Damper with Equalizing Grid for Square and Rectangular Necks**

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.



**D**  
**CEILING DIFFUSERS**

## 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).

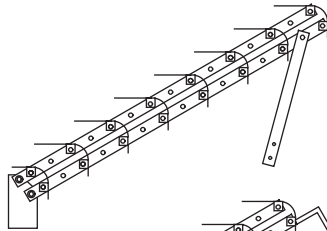
### FEATURES:

- Material: Galvanized steel.
- Minimum size: 6" x 4" (152 x 102).
- Maximum size: 36" x 36" (914 x 914).

### Operator Types

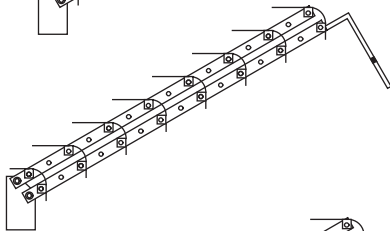
#### EX/EXD-1

Standard unit with adjusting strap.



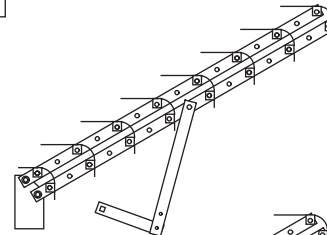
#### EX/EXD-1-R

Rod operator for external operation.



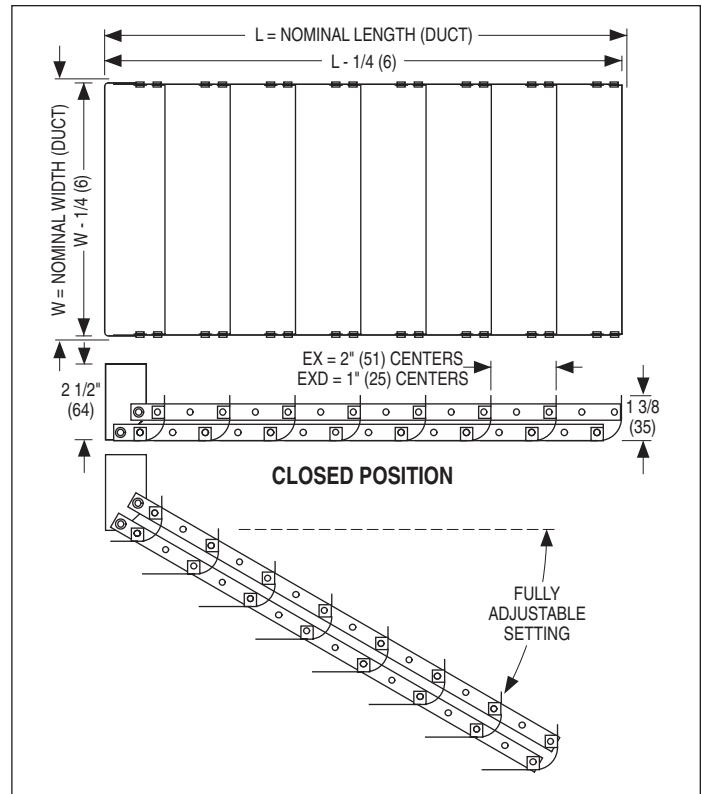
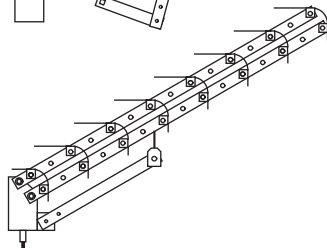
#### EX/EXD-2

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" (5) wrench (by others).



### Optional Accessories

#### RLD

Locking device for Models EX/EXD-1-R.

