

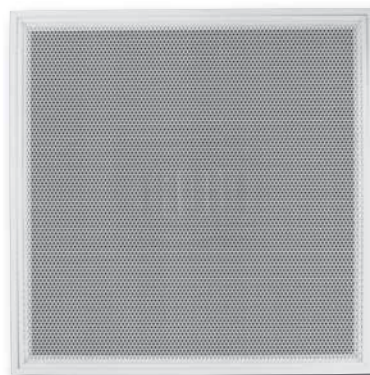
## PREMIUM

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.

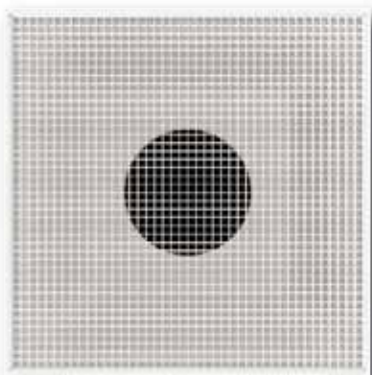
### Flush Face

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.

## SQUARE MODULAR CORE DIFFUSERS

- 1, 2, 3 OR 4-WAY ADJUSTABLE DISCHARGE PATTERN

### Steel Model:

7500

### Aluminum Model:

7200

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



Model 7500

Model Series 7500 and 7200 Diffusers have been specially designed to provide a versatile 'modular core' product which is available in a comprehensive range of sizes and air capacities, providing optimum simplicity and flexibility for field adjustment of the discharge air pattern. They maintain a horizontal ceiling pattern from maximum to minimum flow and make an excellent choice for use in variable air volume systems.

The 7500 and 7200 Series features four individual spring-loaded 'modular' pattern controllers mounted in the neck. They can be adjusted before or after installation, to provide a 1, 2, 3 or 4-way discharge pattern by simply rotating one or more of the pattern controllers which takes only a few seconds.

### STANDARD FEATURES:

- Square neck is standard.
- Each diffuser features four individually adjustable 'spring-loaded' modular cores.
- Simple adjustment for a 1, 2, 3 or 4-way horizontal discharge pattern without the use of tools.
- Inlet collar has minimum 1 1/2" (38) depth for easy duct connection.
- A wide variety of frame styles to suit most ceiling applications.
- Optional extended panels to suit modular T-Bar ceiling systems.

- Optional opposed blade damper with screwdriver slot operator is adjustable from the diffuser face by removing a modular core.

### CONSTRUCTION MATERIAL:

7500 - Corrosion-resistant steel.  
7200 - Aluminum with miscellaneous steel components.

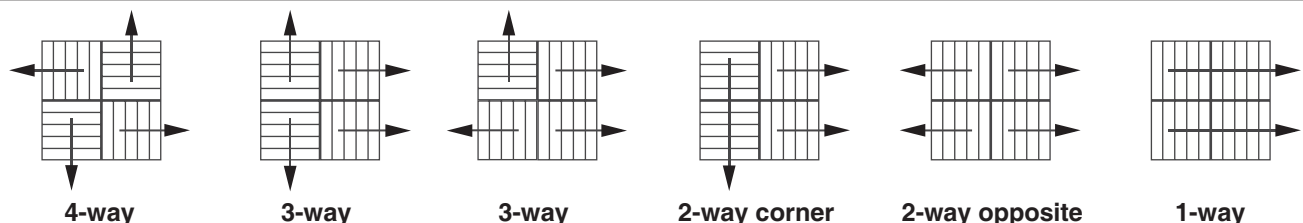
### FINISH OPTIONS:

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

### OPTIONS & ACCESSORIES:

- SR Square to Round Transition Collar (4" – 24" specify SR04 – SR24).
  - EQT Earthquake Tabs
- For additional options and accessories; see page D255.

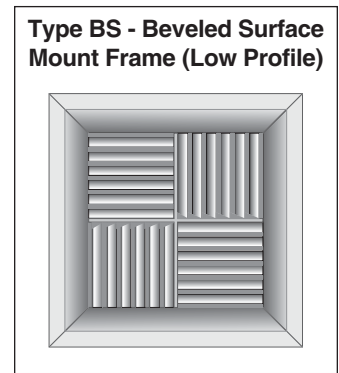
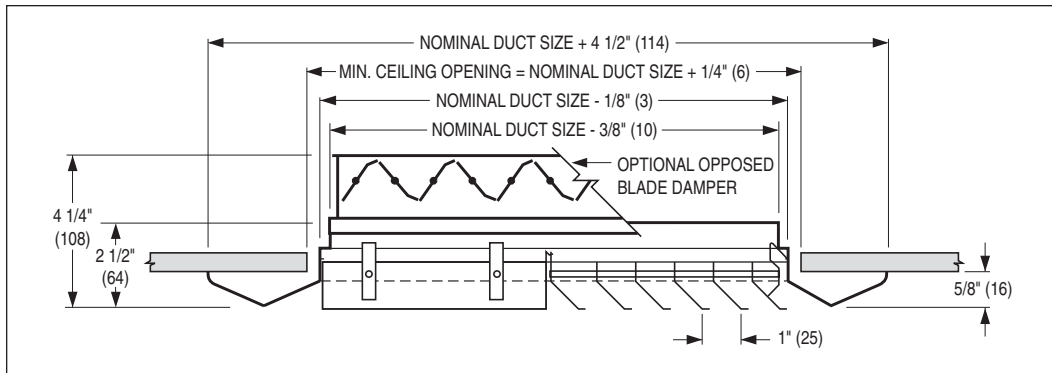
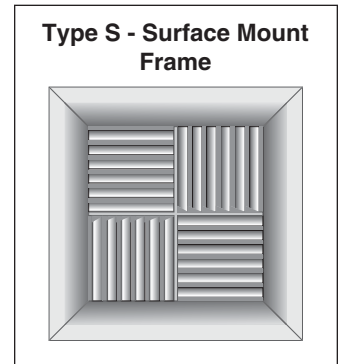
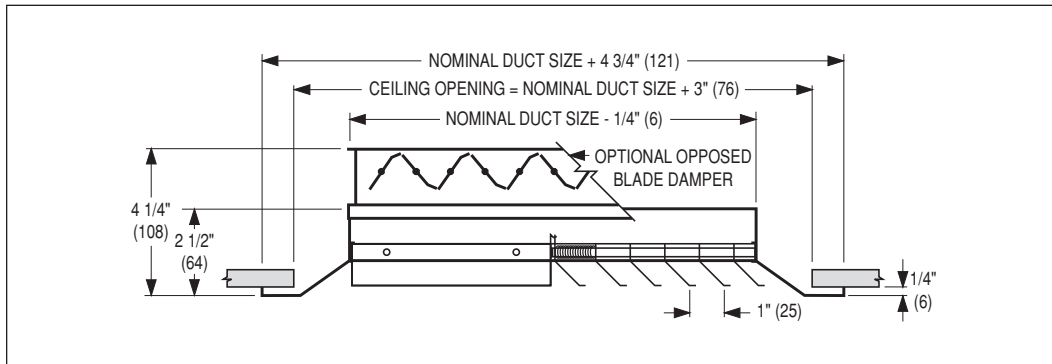
## Modular Core Adjustments



All diffusers are shipped with the standard 4-way pattern, but the air pattern can be simply field adjusted by rotating the spring loaded pattern controllers.

## DIMENSIONAL DATA AND FRAME TYPES:

### Model Series 7500 and 7200



D  
CEILING DIFFUSERS

#### Model Series 7500 Available Duct Sizes

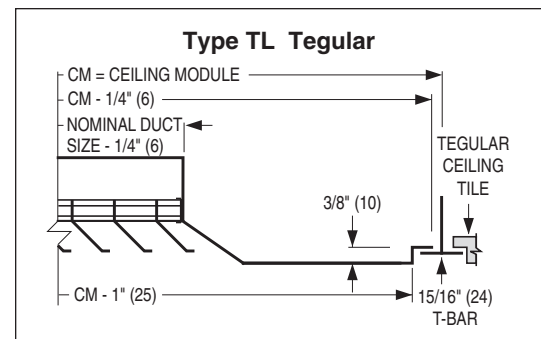
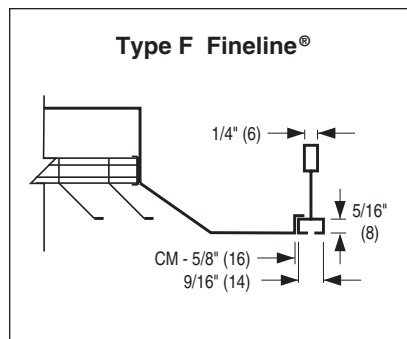
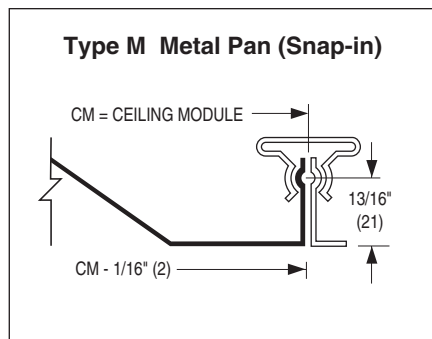
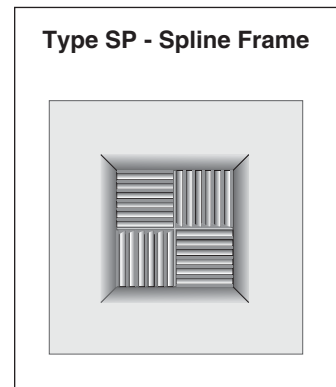
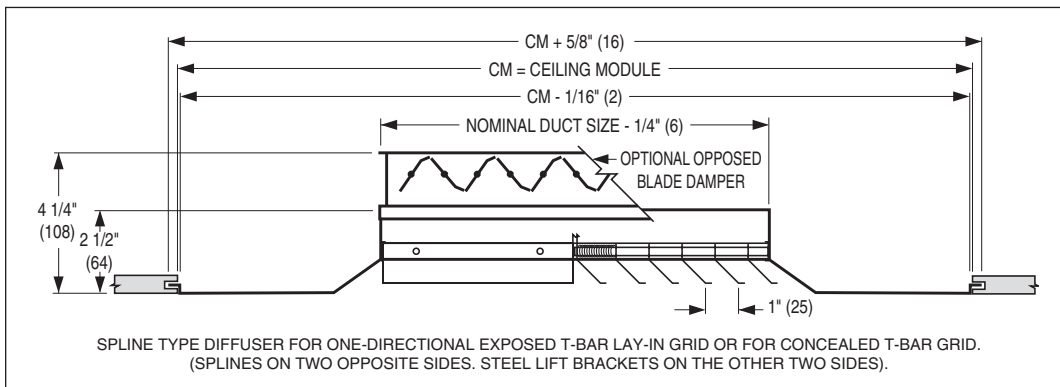
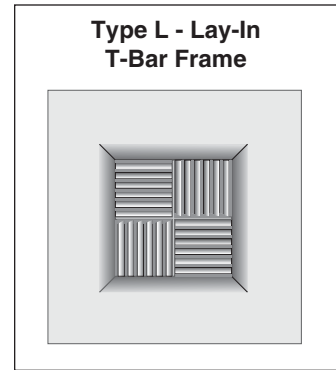
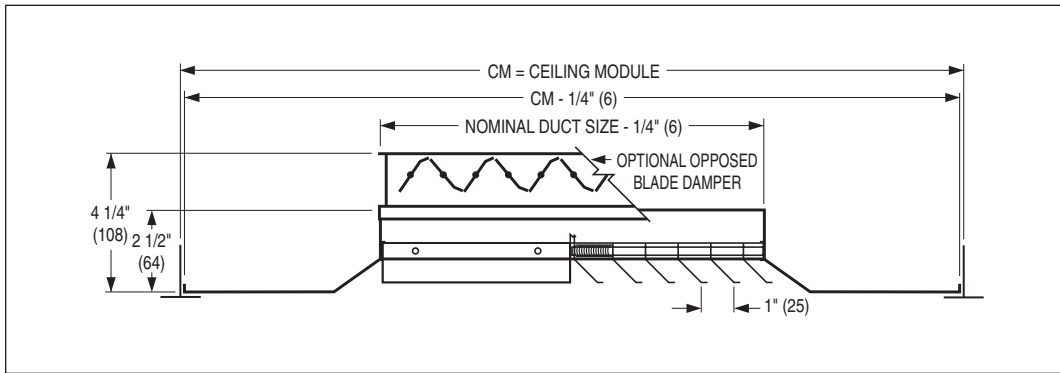
Frame Types S and BS		
6 x 6 (152 x 152)	12 x 12 (305 x 305)	18 x 18 (457 x 457)
8 x 8 (203 x 203)	14 x 14 (356 x 356)	20 x 20 (508 x 508)
9 x 9 (229 x 229)	15 x 15 (381 x 381)	22 x 22 (559 x 559)
10 x 10 (254 x 254)	16 x 16 (406 x 406)	24 x 24 (610 x 610)

#### Model Series 7200 Available Duct Sizes

Frame Types S and BS		
6 x 6 (152 x 152)	14 x 14 (356 x 356)	20 x 20 (508 x 508)
8 x 8 (203 x 203)	16 x 16 (406 x 406)	22 x 22 (559 x 559)
10 x 10 (254 x 254)	18 x 18 (457 x 457)	24 x 24 (610 x 610)
12 x 12 (305 x 305)		

## DIMENSIONAL DATA AND FRAME TYPES:

### Model Series 7500 and 7200



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

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

See the table (below) for the maximum duct size for each module size.

Ceiling Module Size CM – Frame Types L, SP, M, TL and F							
Imperial Modules (inches)	Metric Modules (mm)	Model 7500 Available Duct Sizes			Model 7200 Available Duct Sizes		
12 x 12, 24 x 12	300 x 300, 600 x 300	6 x 6 (152 x 152)	8 x 8 (203 x 203)	9 x 9 (229 x 229)	6 x 6 (152 x 152)	8 x 8 (203 x 203)	
20 x 20	500 x 500	6 x 6 (152 x 152) 8 x 8 (203 x 203) 9 x 9 (229 x 229)	10 x 10 (254 x 254) 12 x 12 (305 x 305) 14 x 14 (356 x 356)	15 x 15 (381 x 381)	6 x 6 (152 x 152) 8 x 8 (203 x 203)	10 x 10 (254 x 254) 12 x 12 (305 x 305)	14 x 14 (356 x 356)
24 x 24	600 x 600	6 x 6 (152 x 152) 8 x 8 (203 x 203) 9 x 9 (229 x 229)	10 x 10 (254 x 254) 12 x 12 (305 x 305) 14 x 14 (356 x 356)	15 x 15 (381 x 381) 16 x 16 (406 x 406) 18 x 18 (457 x 457)	6 x 6 (152 x 152) 8 x 8 (203 x 203)	10 x 10 (254 x 254) 12 x 12 (305 x 305) 14 x 14 (356 x 356)	16 x 16 (406 x 406) 18 x 18 (457 x 457)

## PERFORMANCE DATA:

### Models 7500 and 7200 • Square Neck

Nominal Neck Size (inches)	Neck Velocity, FPM	200	300	400	500	600	700	800	900	1000	
	Velocity Pressure	.003	.006	.010	.016	.022	.031	.040	.051	.062	
6 x 6	Total Pressure	.008	.018	.033	.051	.073	.100	.131	.165	.204	
	Airflow, CFM	50	75	100	125	150	175	200	225	250	
	Throw	4-Way (1 core)	1-2-3	2-2-5	2-3-6	2-4-7	3-4-8	3-5-8	4-6-8	5-6-9	5-6-10
		3-Way (2 cores)	2-2-5	3-4-8	4-6-9	4-7-10	5-8-11	6-9-12	7-10-13	8-11-14	9-11-15
		2-Way (3 cores)	2-3-6	3-5-10	4-7-11	5-8-12	6-9-13	7-10-14	8-11-16	9-12-17	11-13-18
1-Way (4 cores)		2-4-8	4-6-11	5-8-13	7-10-15	8-11-16	9-12-18	10-13-19	11-14-20	12-15-22	
Noise Criteria	—	—	—	16	22	26	29	32	35		
8 x 8	Total Pressure	.006	.013	.022	.035	.050	.069	.090	.113	.140	
	Airflow, CFM	88	133	177	222	266	310	355	399	444	
	Throw	4-Way (1 core)	1-2-4	2-3-6	2-4-8	3-5-9	4-6-10	4-7-11	5-8-11	6-8-12	6-9-13
		3-Way (2 cores)	2-3-7	3-5-11	5-7-13	6-9-14	7-11-15	8-12-17	10-13-18	11-14-19	12-14-20
		2-Way (3 cores)	3-4-9	4-7-13	6-9-16	8-11-17	9-13-19	10-14-21	12-16-22	13-17-23	14-17-25
1-Way (4 cores)		3-5-11	5-8-15	7-11-18	9-13-20	11-15-22	12-16-24	14-18-26	15-19-27	16-20-29	
Noise Criteria	—	—	—	17	25	29	32	35	38		
10 x 10	Total Pressure	.007	.015	.027	.042	.060	.082	.108	.136	.168	
	Airflow, CFM	138	208	277	347	416	485	555	624	694	
	Throw	4-Way (1 core)	2-3-7	3-5-9	4-7-10	6-8-11	7-9-12	8-9-14	8-10-14	9-11-14	9-11-17
		3-Way (2 cores)	4-6-12	6-10-14	9-12-16	11-13-18	12-14-20	13-15-22	14-16-23	14-19-25	14-20-26
		2-Way (3 cores)	5-8-14	8-12-17	11-14-20	13-16-22	14-17-24	15-18-27	16-20-28	17-22-30	18-23-32
1-Way (4 cores)		6-9-16	9-14-20	13-16-23	14-18-26	16-20-28	17-21-31	18-23-33	20-24-35	21-26-37	
Noise Criteria	—	—	15	18	24	30	34	37	40		
12 x 12	Total Pressure	.007	.016	.029	.046	.066	.089	.116	.147	.182	
	Airflow, CFM	200	300	400	500	600	700	800	900	1000	
	Throw	4-Way (1 core)	2-4-8	4-6-11	5-8-12	7-10-14	8-11-14	9-11-15	10-12-17	11-13-18	11-14-19
		3-Way (2 cores)	5-8-14	8-12-17	10-14-20	13-15-22	14-17-24	15-18-26	16-20-28	17-21-30	18-22-32
		2-Way (3 cores)	6-10-17	10-14-21	12-17-24	15-19-27	17-21-29	18-22-32	19-24-34	21-26-36	22-27-39
1-Way (4 cores)		7-11-19	11-16-24	14-19-28	17-22-31	19-24-34	21-26-37	22-28-40	24-30-42	25-31-45	
Noise Criteria	—	—	17	21	27	32	36	40	43		
14 x 14	Total Pressure	.009	.020	.035	.055	.080	.108	.141	.179	.221	
	Airflow, CFM	272	408	544	680	816	952	1088	1224	1361	
	Throw	4-Way (1 core)	3-5-10	5-7-12	6-10-14	8-11-15	10-12-19	11-13-18	12-14-19	12-14-21	13-15-22
		3-Way (2 cores)	6-9-16	9-14-20	12-16-23	14-18-26	16-20-29	17-21-31	19-23-33	20-25-35	21-26-37
		2-Way (3 cores)	8-11-20	11-17-24	15-20-28	18-22-32	20-24-35	21-26-38	23-28-40	24-30-42	26-32-44
1-Way (4 cores)		9-13-23	13-19-28	17-23-33	21-25-37	23-28-40	25-30-44	26-33-47	28-35-49	30-37-51	
Noise Criteria	—	—	19	23	29	34	38	42	45		
16 x 16	Total Pressure	.011	.024	.043	.067	.096	.131	.172	.217	.268	
	Airflow, CFM	355	533	711	889	1066	1244	1422	1600	1778	
	Throw	4-Way (1 core)	3-5-11	5-8-14	7-11-15	9-13-17	11-14-19	12-14-21	13-15-23	14-17-24	14-17-25
		3-Way (2 cores)	7-10-18	10-15-23	14-18-27	17-21-30	18-23-33	20-25-36	21-27-38	23-28-41	24-30-43
		2-Way (3 cores)	9-12-22	12-19-29	17-22-33	21-25-36	22-28-40	24-30-43	26-33-46	28-34-49	29-36-51
1-Way (4 cores)		10-14-26	14-22-32	20-26-38	24-29-42	26-32-46	28-35-49	30-38-53	32-40-56	34-42-59	
Noise Criteria	—	—	21	25	31	36	40	44	47		

### Performance Notes:

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

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

Neck Size Square in Inches	Ak Factor
6 x 6	.1134
8 x 8	.1932
9 x 9	.2551
10 x 10	.3024
12 x 12	.4526
14 x 14	.5883
15 x 15	.6804
16 x 16	.7728

## PERFORMANCE DATA:

### Models 7500 and 7200 • Square Neck

Nominal Neck Size (inches)	Neck Velocity, FPM	200	300	400	500	600	700	800	900	1000	
	Velocity Pressure	.003	.006	.010	.016	.022	.031	.040	.051	.062	
18 x 18	Total Pressure	.013	.029	.051	.080	.115	.157	.205	.259	.320	
	Airflow, CFM	450	675	900	1125	1350	1575	1800	2025	2250	
	Throw	4-Way (1 core)	4-6-13	6-10-15	8-13-18	11-14-20	13-15-22	14-16-24	14-18-26	15-19-27	16-20-29
		3-Way (2 cores)	8-12-21	12-17-26	15-21-30	19-23-34	21-26-37	23-28-40	24-30-43	26-32-46	27-34-48
		2-Way (3 cores)	10-14-26	14-21-32	19-26-36	23-28-41	26-32-44	28-34-48	29-36-52	31-39-55	33-41-58
		1-Way (4 cores)	11-16-30	16-25-37	22-30-42	27-33-48	30-37-51	32-40-56	34-42-60	36-45-63	39-48-67
Noise Criteria	—	15	22	26	32	37	42	45	48		
20 x 20	Total Pressure	.015	.034	.061	.095	.136	.186	.243	.307	.379	
	Airflow, CFM	555	835	1110	1390	1665	1945	2220	2500	2775	
	Throw	4-Way (1 core)	4-7-14	7-11-17	9-14-20	12-15-22	14-17-24	15-18-27	16-20-29	17-21-30	18-22-32
		3-Way (2 cores)	9-13-23	13-19-29	17-23-34	21-26-38	23-29-41	25-31-45	27-34-48	29-36-50	30-38-53
		2-Way (3 cores)	11-16-28	16-24-36	21-28-41	25-32-45	28-35-49	31-38-54	33-41-58	35-43-61	37-45-64
		1-Way (4 cores)	13-18-33	18-28-43	25-33-47	30-37-52	33-41-57	36-44-62	38-47-67	41-49-71	43-52-75
Noise Criteria	—	17	24	28	34	39	44	47	50		
22 x 22	Total Pressure	.018	.040	.071	.111	.159	.217	.284	.359	.443	
	Airflow, CFM	675	1000	1345	1680	2015	2350	2690	3025	3360	
	Throw	4-Way (1 core)	5-8-15	8-12-19	10-15-22	13-17-25	15-19-27	16-20-29	18-22-31	19-23-34	20-25-35
		3-Way (2 cores)	10-14-26	14-21-32	19-26-37	23-29-42	26-32-46	28-35-48	30-37-52	32-39-55	34-41-58
		2-Way (3 cores)	12-17-31	17-26-39	24-31-44	28-35-50	31-39-55	34-42-58	36-44-63	39-47-67	41-50-70
		1-Way (4 cores)	14-20-36	20-31-45	28-36-51	33-41-58	36-45-63	39-48-68	41-51-73	45-54-78	47-58-81
Noise Criteria	—	19	26	30	36	41	46	49	52		
24 x 24	Total Pressure	.021	.046	.082	.129	.185	.252	.329	.416	.514	
	Airflow, CFM	800	1200	1600	2000	2400	2800	3200	3600	4000	
	Throw	4-Way (1 core)	5-8-16	8-13-21	11-16-24	14-19-27	16-21-30	18-22-32	19-24-35	21-26-37	22-27-39
		3-Way (2 cores)	10-15-28	15-23-35	20-28-41	26-32-45	28-35-49	31-38-53	33-41-57	35-43-61	37-45-64
		2-Way (3 cores)	12-19-34	19-29-42	25-34-49	31-39-54	34-42-59	37-45-64	39-49-68	42-52-73	44-54-77
		1-Way (4 cores)	14-22-40	22-34-48	30-40-56	36-45-63	40-48-69	43-52-75	45-56-79	48-60-84	51-63-89
Noise Criteria	—	21	28	32	34	43	48	51	54		

#### 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 on 10 dB room absorption, re 10<sup>-12</sup> watts. Dash (—) in spaces indicates an Noise Criteria level of less than 15.

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

Neck Size Square in Inches	Ak Factor
18 x 18	0.9541
20 x 20	1.2096
22 x 22	1.4636
24 x 24	1.7304

## HOW TO ORDER

### MODULAR CORE CEILING DIFFUSERS – MODEL SERIES 7500

EXAMPLE: 7500 - 0 - 9 x 9 - 24 x 24 - L - AW - SR08 - -

- |  |   |
|--|---|
| <ol style="list-style-type: none"> <li>1. <b>Model</b><br/>7500 Steel</li> <li>2. <b>Damper</b><br/>– None (default)<br/>O Opposed Blade (steel)</li> <li>3. <b>Neck Size (inches)</b><br/><b>Square or Rectangular:</b><br/>6 x 6, 8 x 8, 9 x 9, 10 x 10, 12 x 12,<br/>14 x 14, 15 x 15, 16 x 16, 18 x 18,<br/>20 x 20, 22 x 22, 24 x 24</li> <li>4. <b>Ceiling Module Size</b><br/><b>Imperial (inches)</b><br/>12 x 12, 20 x 20, 24 x 12, 24 x 24<br/><b>Metric (mm)</b><br/>300 x 300, 500 x 500, 600 x 300,<br/>600 x 600</li> <li>5. <b>Frame Type</b><br/>S Surface Mount<br/>BS Bevelled Drop Face<br/>(Surface Mount)<br/>L Lay-in T-Bar<br/>SP Spline<br/>M Metal Pan (Snap-in)<br/>TL Tegular (Drop Face)<br/>F Finline®</li> </ol> | <ol style="list-style-type: none"> <li>6. <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/>SP Special Custom Color</li> </ol> |
|--|---|

**OPTIONS & ACCESSORIES:**

- None (default)
- 7. **Transition Collar**  
SR Square to Round Transition  
Collar (04 through 24 specify)
- 8. **Earthquake Tabs**  
EQT Earthquake Tabs

**OTHER OPTIONS & ACCESSORIES:**

**Air Balancing Devices**

(order separately)

**Round Neck:**

4250 Radial Sliding Damper,  
6" - 14"

4275 Radial Opposed Blade  
Damper, 5" - 24"

4675 Butterfly Damper, 6" - 14"

EGR Equalizing Grid

DEGR Damper/Equalizing Grid

**Square/Rectangular Neck:**

DEGL Damper/Equalizing Grid  
(long)

EGL Equalizing Grid

**Notes:**

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

**Available Maximum Sizes for Ceiling Modules**

CEILING MODULE		MAXIMUM NECK SIZES BY FRAME TYPES			
Imperial	Metric	L	SP, M	TL	F
12 x 12 24 x 12	300 x 300 600 x 300	9 x 9 (229 x 229)	9 x 9 (229 x 229)	6 x 6 (152 x 152)	6 x 6 (152 x 152)
20 x 20	500 x 500	15 x 15 (381 x 381)	n/a	15 x 15 (381 x 381)	15 x 15 (381 x 381)
24 x 24	600 x 600	18 x 18 (457 x 457)	18 x 18 (457 x 457)	18 x 18 (457 x 457)	18 x 18 (457 x 457)

**SUGGESTED SPECIFICATION:**

Furnish and install **Nailor Model Series 7500 Steel Modular Core Ceiling Diffusers** of the sizes and capacities as shown on the plans and air distribution schedules. Model 7500 shall have a heavy gauge, corrosion-resistant steel frame and core. The modular deflectors shall consist of four square, individually adjustable pattern deflectors, factory installed in a 4-way pattern, that are easily field rotated to provide throws in a 1, 2, or 3-way pattern. The diffuser shall have a square duct connection collar that is an integral part of the frame assembly and not be less than 1 1/2" (38) high. The finish shall be AW Appliance White (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.

D  
CEILING DIFFUSERS



## PRODUCT OVERVIEW OPTIONS AND ACCESSORIES FOR CEILING DIFFUSERS

### MOUNTING FRAMES

- Surface mount adapter frames for plaster and sheet rock ceilings are available in steel and aluminum. They simplify installation, save time and allow ceiling plenum access.

### OPTIONS

- A selection of optional items that are available on ceiling diffusers.

### FINISHES

- Selection of standard and non-standard finishes to choose from.
- Baked enamel paint in custom colors to suit architect.

### AIR BALANCING DEVICES

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

Effective air balancing of an HVAC System requires the correct selection, specification and installation of the right product to suit the system design.

Nailor offers a comprehensive range of models and options to cover all applications.

Nailor balancing devices are:

- Easy to select and specify. Many items can be ordered or specified as diffuser accessories.
- Designed to offer a smooth, accurate and predictable response during adjustment for precise air metering.
- Designed to provide quick access and adjustment.
- Engineered with attention to optimizing airflow, in order to minimize noise, turbulence and pressure drop.

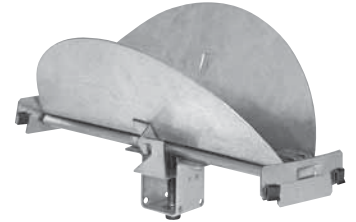
**Model DFA**  
Drywall/Plaster Frame  
Surface Mount  
Ceiling Adapter



**Model 4275**  
Radial Opposed  
Blade Damper



**Model 4250**  
Radial Sliding Blade Damper



**Model 4675**  
Butterfly Damper



**Model OBD**  
Opposed Blade Damper  
Steel, Neck Mount



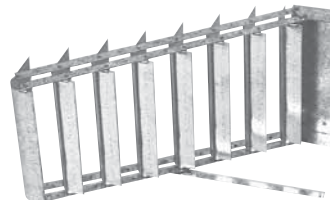
**Model OBDD**  
Opposed Blade Damper  
Steel, Duct Mount



**Model EGR**  
Equalizing Grid



**Model DEGR**  
Damper with Equalizing Grid



**Model EX-1**  
Volume Extractor

D

CEILING DIFFUSERS

## 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.

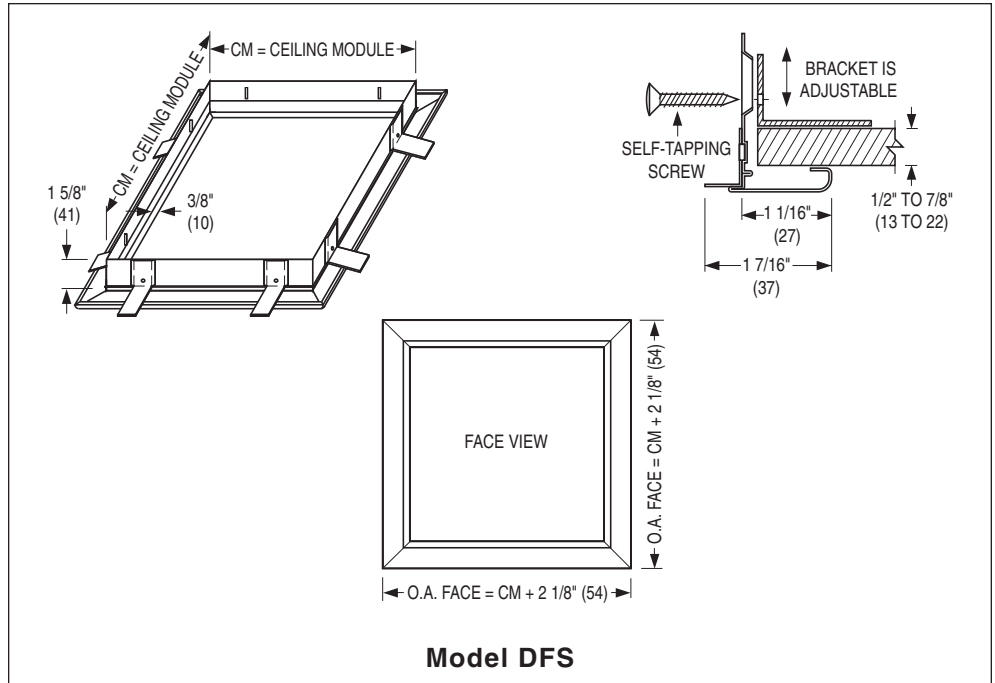
A major benefit is that the DF Series allows access to the ceiling plenum space above for maintenance purposes without the need for separate access doors. The finished appearance is professional and aesthetically pleasing.

**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

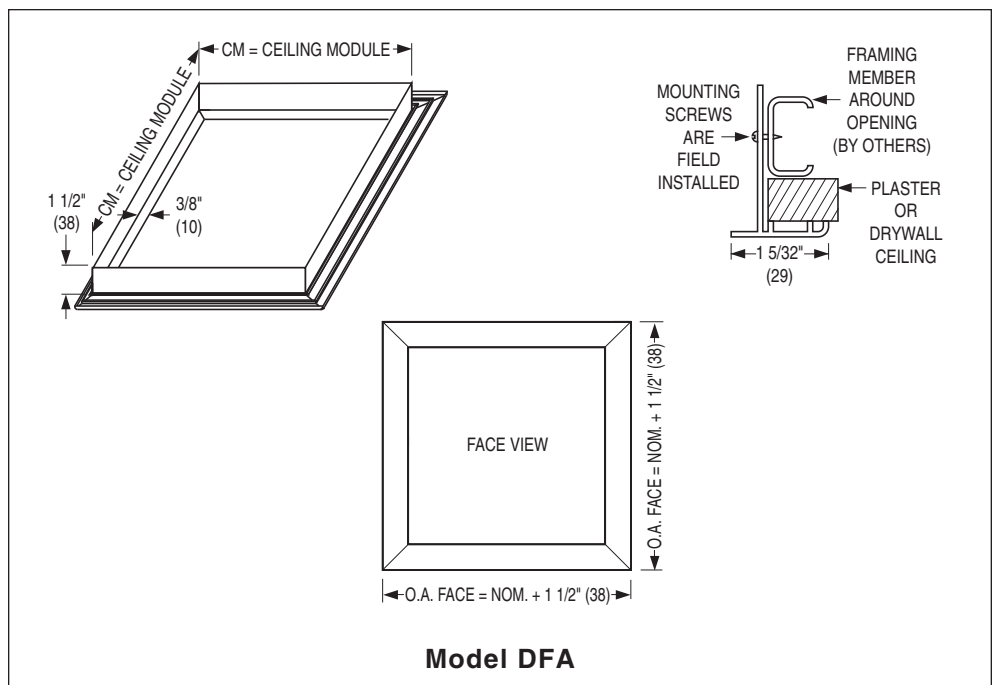
Ceiling opening = CM + 1/4" (6)



**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

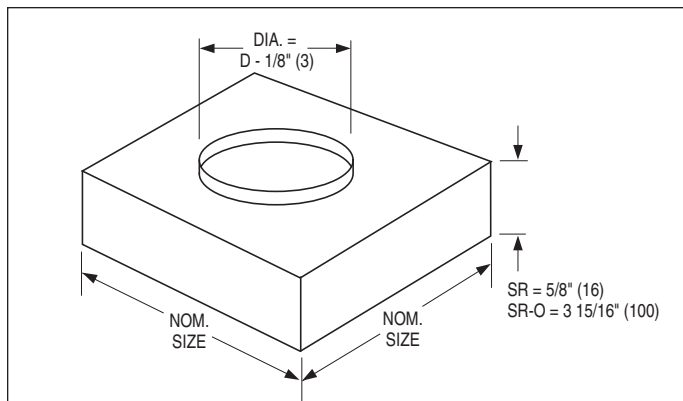
An optional safety chain is available on all of Nailor's round ceiling diffusers.

#### GK Foam Gaskets

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

#### SR Square to Round Transition Collar

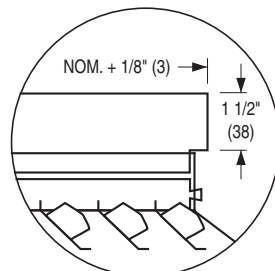
Transition collars are for use on Nailor square neck diffusers where a round duct connection is required. Round necks are sized for flexible or hard duct connection. SR's are shipped loose for field installation and are supplied with barbed S clips.



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**

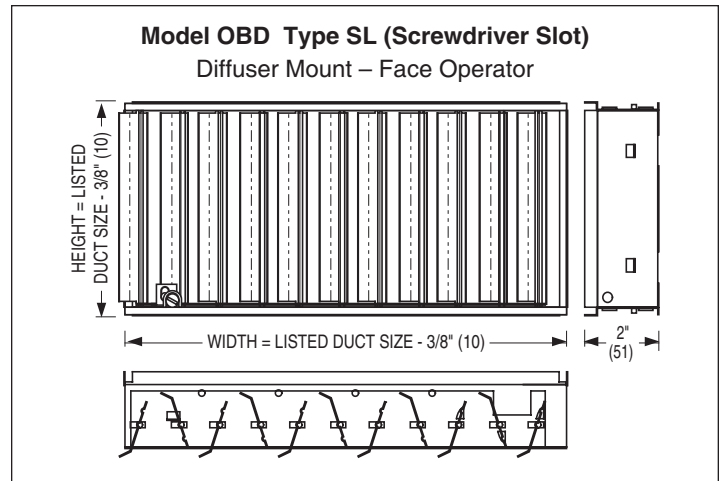
This style of damper mounts directly on the neck and are sized to suit most **Nailor** diffusers. Uses steel barbed S-clips for easy field mounting or removal when ordered separately. Supplied as standard with a screwdriver slot operator (Type SL).

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.

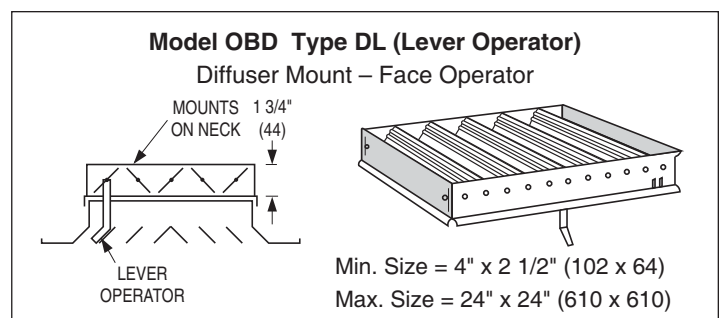
#### Type SL Operator

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:

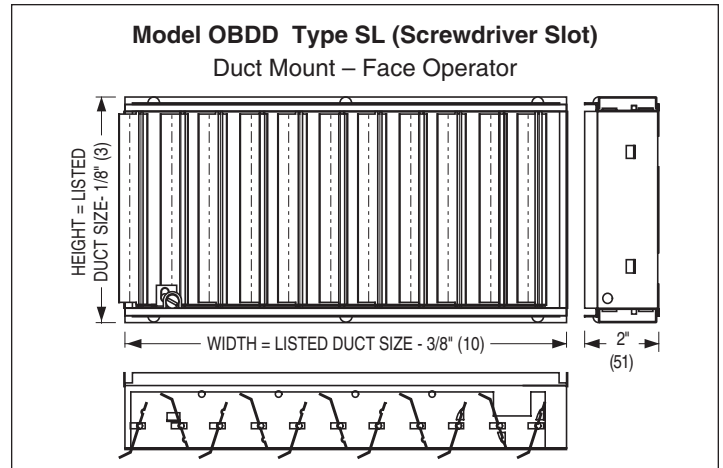
**OBDD Steel**

**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).

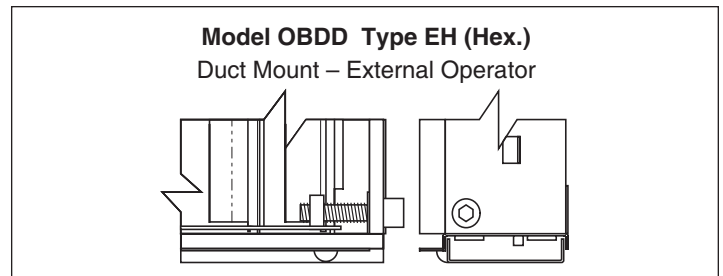
### Type SL Operator

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



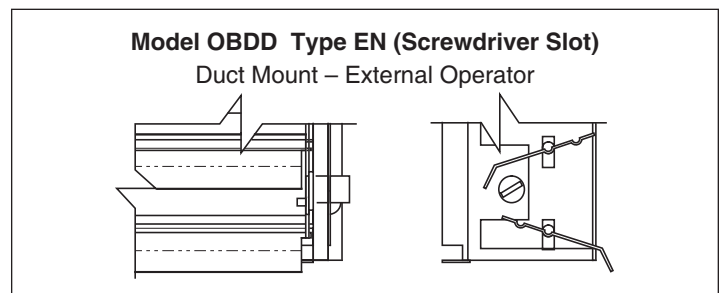
### Type EH Operator

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.



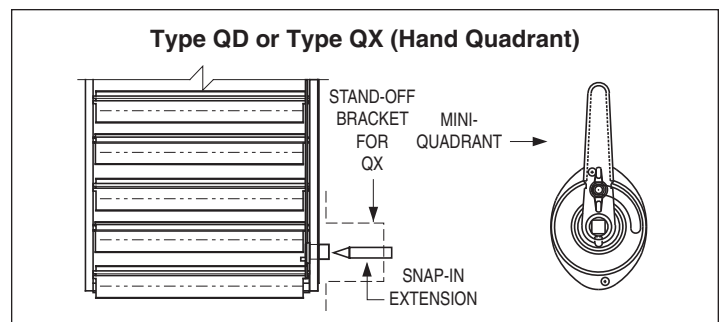
### Type QD Operator \*

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

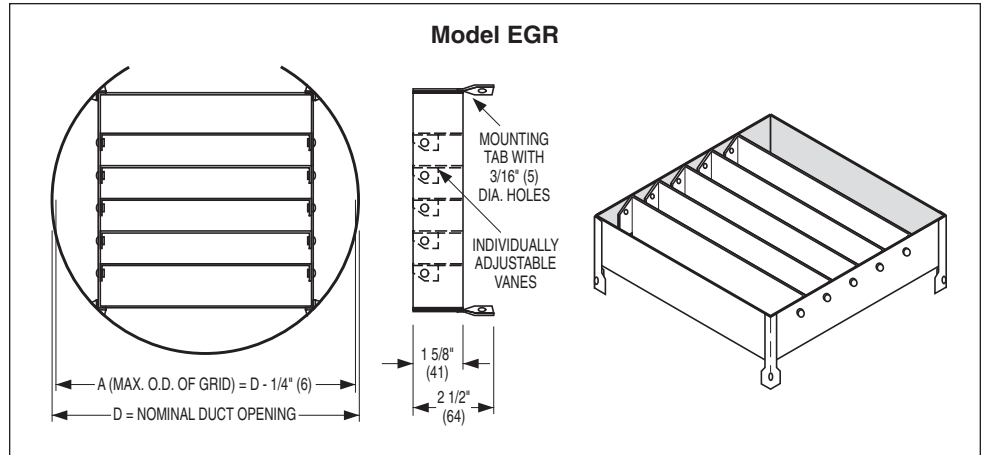


**Air Balancing and Directional Control Devices**

**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.

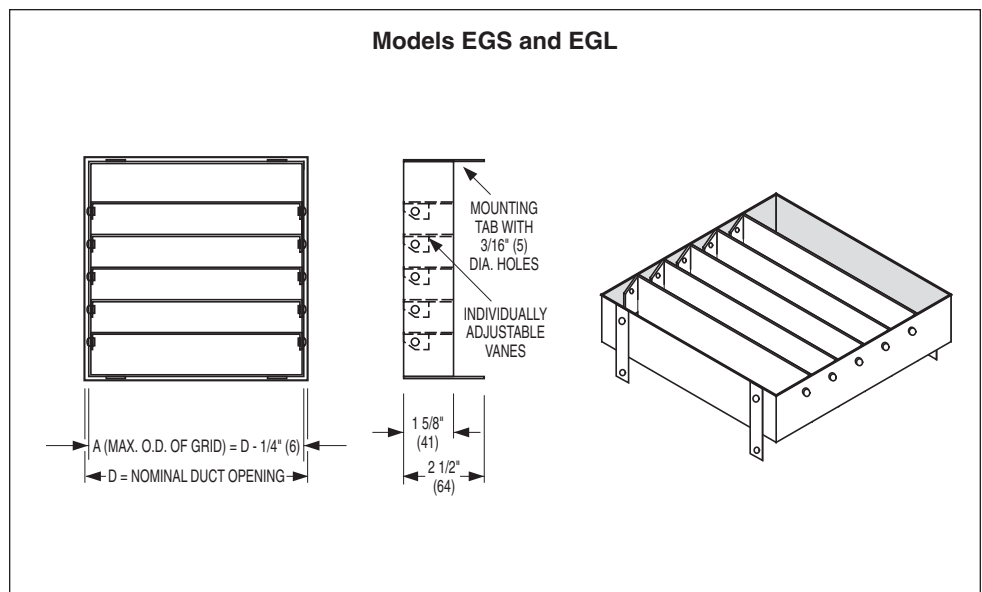


**Equalizing Grid for Square and Rectangular Necks**

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.



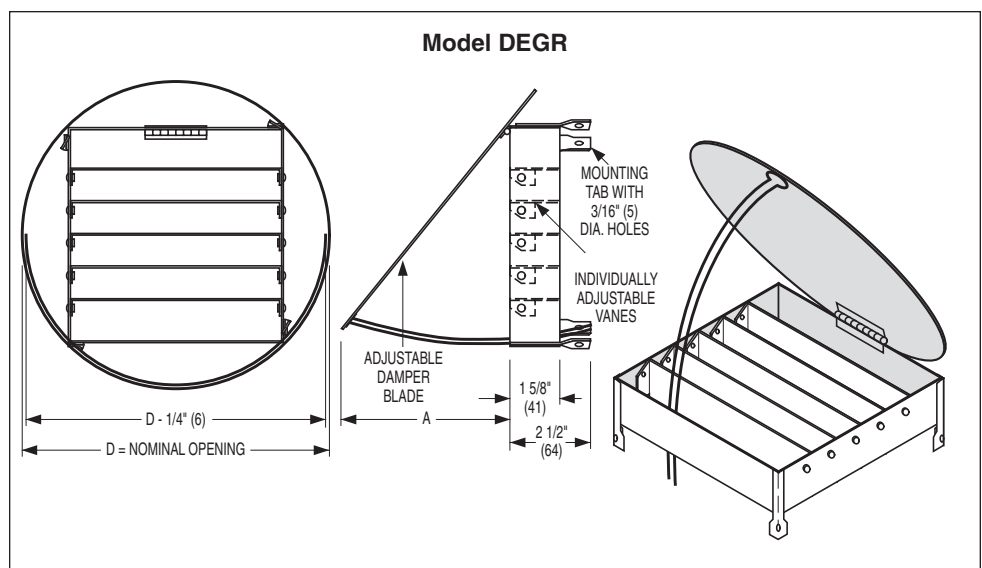
**Damper with Equalizing Grid for Round Necks**

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**

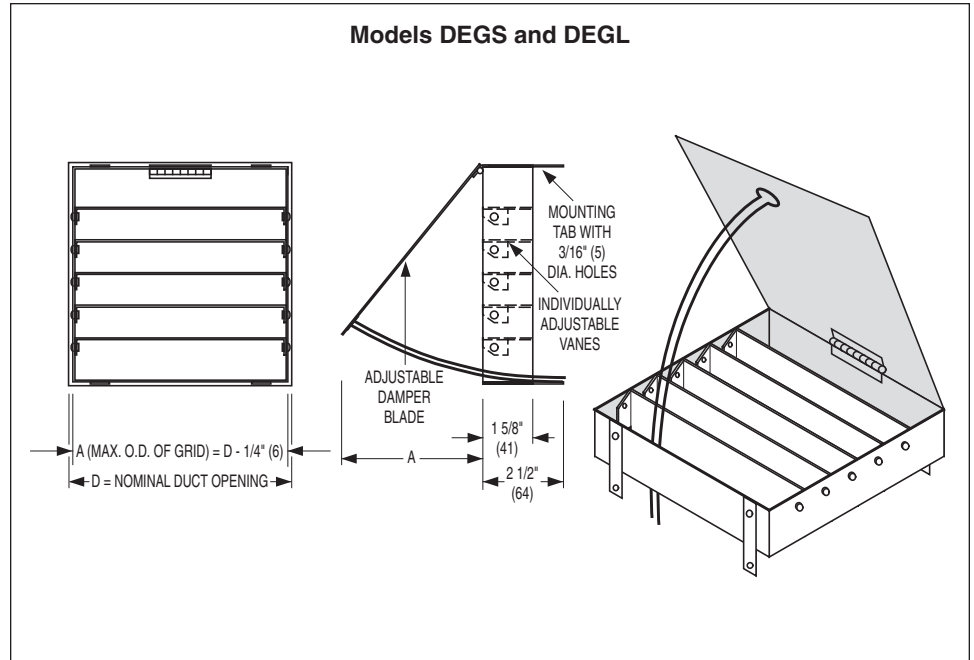
**Damper with Equalizing Grid for Square and Rectangular Necks**

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).

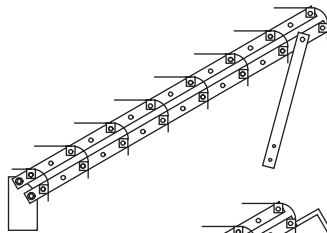
### FEATURES:

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

### Operator Types

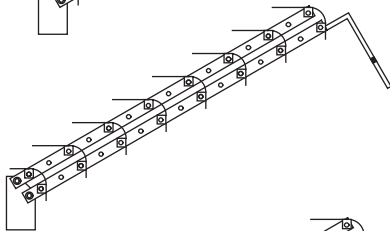
#### EX/EXD-1

Standard unit with adjusting strap.



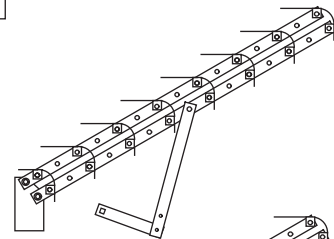
#### EX/EXD-1-R

Rod operator for external operation.



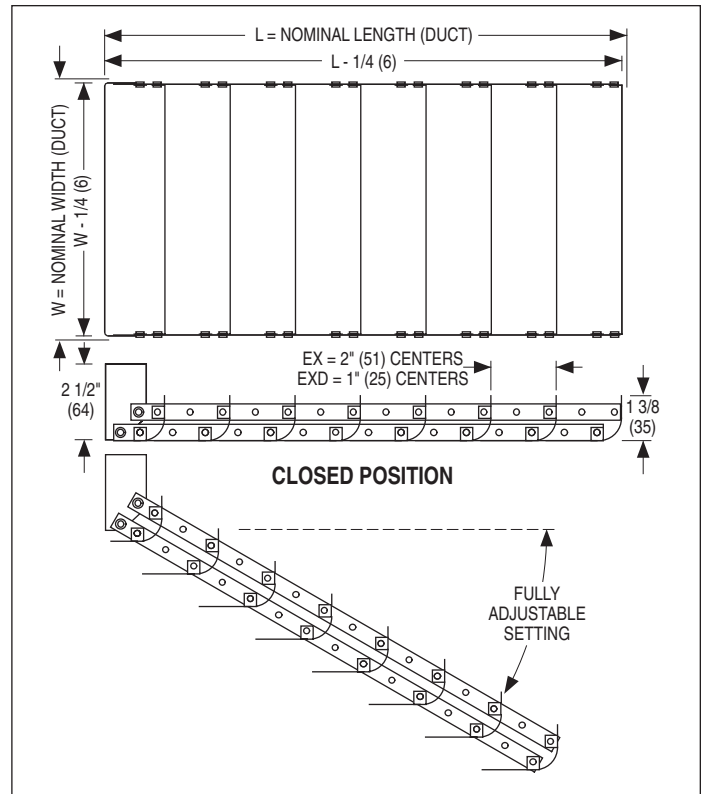
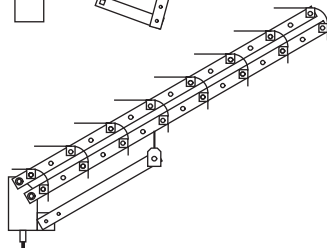
#### EX/EXD-2

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**.

