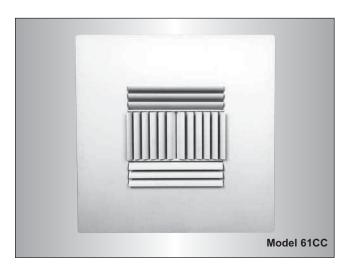




This aluminum face return diffuser features 1/2" x 1/2" x 1/2" (13 x 13 x 13) eggcrate that provides a high free area. It is offered with either a round or square neck for ducted return applications. The backpan or frame is available in both corrosion-resistant steel and aluminum construction.

Steel Frame/Backpan – Model 4260 See Page D216
Aluminum – Model 4260AA See Page D216



#### **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**

No Directional Vanes - Model 51CC

Directional Vanes – Model 61CCD

No Directional Vanes – Model 61CC

Aluminum Construction

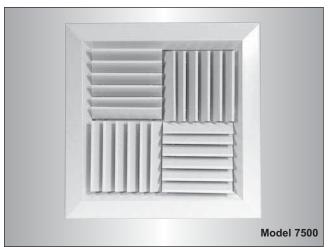
Directional Vanes – Model 51CCD

See Page D226

See Page D226

See Page D226

See Page D226

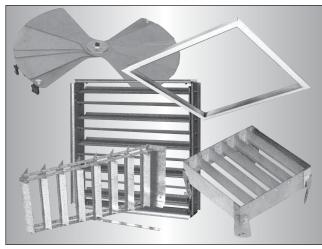


#### **Modular Core**

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 Suffix '-O' adds a steel OBD. See Page D220



#### **Options & Accessories**

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

#### **Options**

See Page D226

Mounting Frames	See Page D233
Options	See Page D234
Finishes	See Page D234
Accessories	

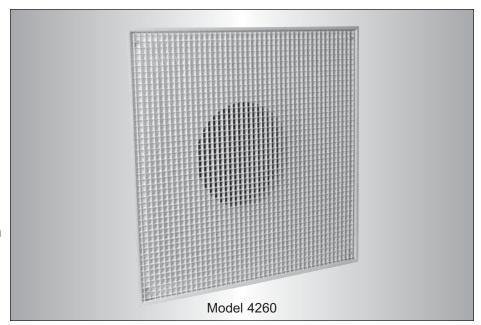
Air Balancing Devices See Page D235
Volume Extractors See Page D240

# EGGCRATE CEILING RETURN DIFFUSERS

- HIGH CAPACITY
- SUITABLE FOR FLEXIBLE DUCT CONNECTIONS
- 1/2" x 1/2" x 1/2" (13 x 13 x 13) ALUMINUM GRID CORE

#### Models:

4260 Steel Frame/Backpan 4260AA Aluminum Frame



The Nailor 4260 Series Eggcrate Return Ceiling Diffuser has a high free area for high volume capacity with low sound levels and pressure drops. It has an architecturally pleasing design that matches in appearance the grid louvers on parabolic light fixtures.

The **4260 Series** is offered in two versions. One for ducted return applications, for connection to flexible or rigid round duct or square duct. The other version has a dedicated frame assembly which has a neck that is 2" (51) less than the ceiling module size. This unit maximizes free area and may be used for ducted or ductless return air applications.

#### **FEATURES:**

- Full face design for ducted return air applications.
- 1/2" x 1/2" x 1/2" (13 x 13 x 13) aluminum eggcrate.
- · Removable core.
- Round or square necks available.
- Inlet collar has 1 1/4" (35) depth for easy duct connection.

**Material:** Corrosion-resistant steel frame/backpan with aluminum grid core or extruded aluminum frame/backpan with aluminum grid core depending on model selection.

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

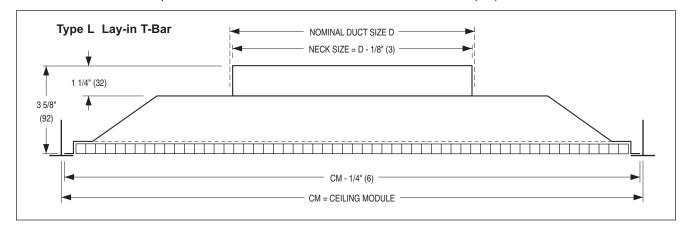
#### Available Combinations of Ceiling Module vs. Neck Size

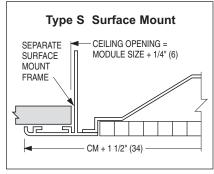
Ceiling N	Module CM Nominal Duct Size D						
Imperial	Metric	Round	l Neck	Square Neck			
Modules	Modules	Imperial Units (in.)	Metric Units (mm)	Imperial Units (in.)	Metric Units (mm)		
12 x 12 300 x 300	6,	152,	6 x 6, 8 x 8,	152 x 152, 203 x 203,			
	8	203	10 x 10	254 x 254			
04 v 10	24 40	6,	152,	6 x 6, 8 x 8,	152 x 152, 203 x 203,		
24 x 12	600 x 300	8	203	18 x 6, 22 x 10	457 x 152, 550 x 254		
20 x 20	00 00 500	6, 8, 10,	152, 203, 254,	6 x 6, 8 x 8,	152 x 152, 203 x 203,		
20 X 20	500 x 500	12, 14	305, 356	10 x 10, 18 x 18	254 x 254, 450 x 450		
		6, 8,	152, 203,	6 x 6, 8 x 8,	152 x 152, 203 x 203,		
		10, 12	254, 305,	10 x 10, 12 x 12	254 x 254, 305 x 305		
24 x 24 600 x 600	14, 15	356, 381	14 x 14, 15 x 15	356 x 356, 381 x 381			
	16, 18	406, 457	16 x 16, 18 x 18	406 x 406, 457 x 457			
			22 x 22	559 x 559			
48 x 24	1200 x 600	_	_	46 x 22	1150 x 550		

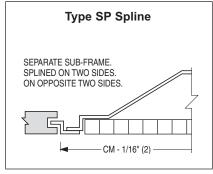
# **Dimensional Data and Frame Types**

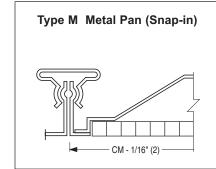
## Models 4260, 4260AA

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



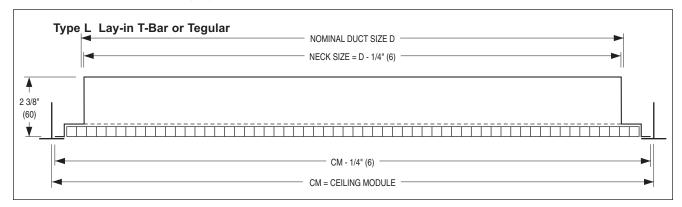


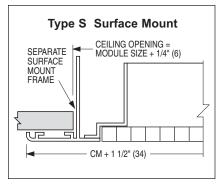


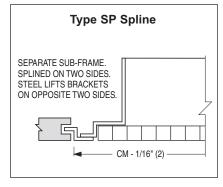


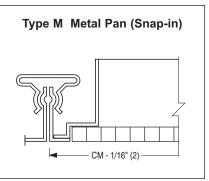
## Models 4260, 4260AA

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





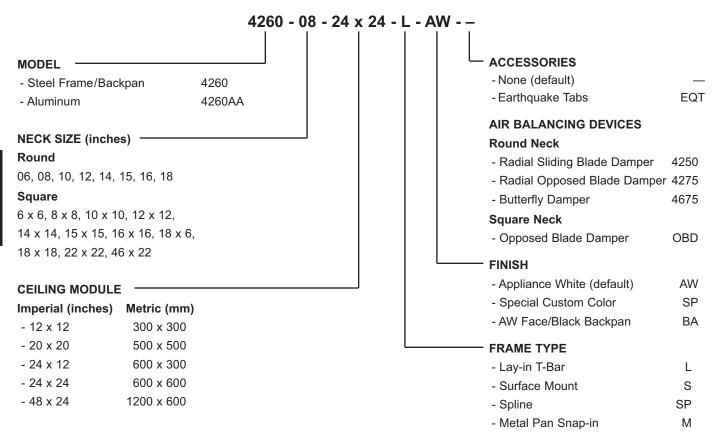




## HOW TO SPECIFY OR TO ORDER

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

## Eggcrate Return Ceiling Diffusers - Models 4260 and 4260AA



#### Note:

1. Consult individual models as to limitations and availability of ceiling module and neck size combinations.

#### SUGGESTED SPECIFICATION:

Furnish and install Nailor Model (select one) 4260 (corrosion-resistant steel frame/backpan) or 4260AA (aluminum frame/backpan) Eggcrate Return Ceiling Diffusers of the sizes and capacities as shown on the plans and air distribution schedules. The diffuser shall have a removable aluminum grid core that is 1/2" x 1/2" x 1/2" (13 x 13 x 13) and extends the full face of the diffuser. The finish shall be AW Appliance White baked enamel (optional finishes are available).

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

### **Performance Data**

# Models 4260, 4260AA • Full Face • Round and Square Neck

Nominal	Neck Velocity, fpm	300	400	500	600	700	800	900	1000	1200	1400
Neck Size	Velocity Pressure	.006	.010	.016	.023	.031	.040	.051	.063	.090	.122
6"	Airflow, cfm	59	78	98	118	137	157	176	196	235	274
Dia.	Neg. Static Pressure	.011	.019	.029	.042	.056	.073	.092	.113	.162	.218
Dia.	NC	_	_	_	_	_	_	_	16	20	29
	Airflow, cfm	75	100	125	150	175	200	225	250	300	350
6" x 6"	Neg. Static Pressure	.011	.018	.029	.041	.055	.072	.091	.111	.160	.217
	NC	_	_	_	_	_	_	16	19	23	32
8"	Airflow, cfm	105	140	175	209	244	279	314	349	419	489
Dia.	Neg. Static Pressure	.011	.019	.030	.042	.057	.074	.092	.113	.163	.218
Dia.	NC	_	_	_	_	_	15	18	21	25	34
	Airflow, cfm	133	178	222	267	311	356	400	444	533	622
8" x 8"	Neg. Static Pressure	.011	.018	.029	.042	.057	.074	.093	.115	.164	.223
	NC	_	_	_	_	_	16	19	22	26	35
10"	Airflow, cfm	164	218	273	327	382	436	491	545	654	763
Dia.	Neg. Static Pressure	.011	.020	.031	.044	.058	.076	.095	.118	.165	.226
Dia.	NC	_	_	_	_	15	19	22	26	32	38
	Airflow, cfm	208	278	347	416	486	555	625	694	833	972
10" x 10"	Neg. Static Pressure	.011	.019	.030	.043	.058	.076	.094	.119	.169	.228
	NC	_	_	_	_	16	20	23	27	33	39
12"	Airflow, cfm	236	314	393	471	550	628	707	785	942	1100
Dia.	Neg. Static Pressure	.011	.019	.030	.043	.058	.076	.096	.118	.170	.232
Dia.	NC	_	_	_	_	18	22	25	28	34	41
	Airflow, cfm	300	400	500	600	700	800	900	1000	1200	1400
12" x 12"	Neg. Static Pressure	.011	.020	.031	.045	.062	.080	.100	.124	.174	.239
	NC	_	_	_	15	19	23	26	29	35	42
14"	Airflow, cfm	321	428	535	641	748	855	962	1069	1282	1497
Dia.	Neg. Static Pressure	.011	.020	.031	.044	.060	.079	.100	.123	.177	.241
Dia.	NC	_	_	_	16	20	24	27	30	36	43
	Airflow, cfm	408	544	681	817	953	1089	1225	1361	1633	1905
14" x 14"	Neg. Static Pressure	.011	.020	.032	.046	.063	.082	.103	.128	.184	.250
	NC	_	_	_	17	21	26	29	32	38	45
16"	Airflow, cfm	419	558	698	838	977	1117	1256	1396	1675	1954
Dia.	Neg. Static Pressure	.012	.021	.032	.046	.063	.082	.104	.129	.185	.252
Dia.	NC	_	_	_	17	21	25	29	32	38	45
	Airflow, cfm	533	711	889	1067	1245	1422	1600	1778	2134	2489
16" x 16"	Neg. Static Pressure	.012	.021	.034	.048	.066	.086	.109	.134	.193	.263
	NC	_	_	15	20	24	28	31	34	40	47
18"	Airflow, cfm	530	707	884	1060	1237	1414	1590	1767	2120	2474
Dia.	Neg. Static Pressure	.012	.021	.033	.048	.066	.086	.108	.134	.193	.262
Dia.	NC	_	_	15	20	24	28	31	34	40	47
	Airflow, cfm	675	900	1125	1350	1575	1800	2025	2250	2700	3150
18" x 18"	Neg. Static Pressure	.013	.023	.035	.051	.070	.091	.115	.142	.204	.278
	NC	_		17	22	27	32	35	38	45	51
	Airflow, cfm	1008	1344	1681	2017	2353	2689	3025	3361	4033	4706
22" x 22"	Neg. Static Pressure	.014	.025	.040	.057	.078	.102	.129	.159	.229	.312
	NC	_	_	19	24	29	34	37	40	47	53
				l	I		1	l	1	I	

#### **Performance Notes:**

- 1. All pressures are in inches w.g..
- 2. Neck Velocity is given in feet per minute (fpm). Airflow is given in cubic feet per minute (cfm).
- 3. NC (Noise Criteria) values are based on 10 dB room absorption, re 10<sup>-12</sup> watts. Dash (-) in spaces indicates an NC level of less than 15.
- 4. Data derived from tests conducted in accordance with ANSI/ASHRAE Standard 70 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

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**

# MODELS: DFS (Steel), DFA (Aluminum) Drywall/Plaster Frame

The DF Series are for mounting in finished drywall or plaster ceilings to accept any standard lay-in type grille, register, diffuser or other ceiling component. Installation of the air outlet is as simple as inserting them in a standard lay-in T-Bar type ceiling system.

The DF Series simplifies and reduces installation time compared with surface mount type diffusers. This is especially true where flexible duct is utilized.

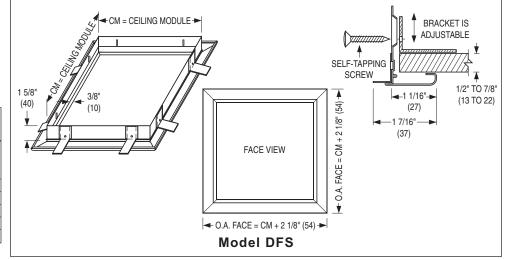
A major benefit is that the DF Series allows access to the ceiling plenum space above for maintenance purposes without the need for separate access doors. The finished appearance is professional and aesthetically pleasing.

Standard Finish: AW Appliance White baked enamel. Other finishes are available.

**Model DFS** is installed quickly and easily using adjustable fastening angle brackets which adapt to various ceiling thicknesses. Frames are roll-formed corrosion-resistant steel with staked and mitered corners.

IMPE MOD	METRIC MODULES	
Imperial Units (inches)	S.I. Units (mm)	S.I. Units (mm)
12 x 12	305 x 305	300 x 300
16 x 16	406 x 406	400 x 400
20 x 20	508 x 508	500 x 500
24 x 12	610 x 305	600 x 300
24 x 24	610 x 610	600 x 600

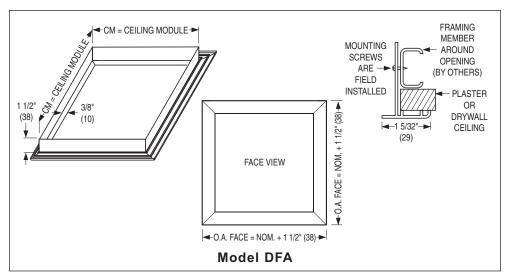
Ceiling opening = CM + 1/4" (6)



**Model DFA** requires framing of the ceiling opening with 'C' channel or wood studs for attachment with mounting screws (by others).

IMPERIAL MODULES		METRIC MODULES		
Imperial Units (inches)	S.I. Units (mm)	S.I. Units (mm)		
12 x 12	305 x 305	300 x 300		
16 x 16	406 x 406	400 x 400		
20 x 20	508 x 508	500 x 500		
24 x 12	610 x 305	600 x 300		
24 x 24	610 x 610	600 x 600		
36 x 24	914 x 610	900 x 600		
48 x 12	1219 x 305	1200 x 300		
48 x 24	1219 x 610	1200 x 600		
60 x 12	1524 x 305	1500 x 300		

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



# **OPTIONS:**

#### **EQT Earthquake Tabs**

Earthquake (seismic) retaining safety tabs are available; factory installed on diffusers when required by local building code that units be independently restrained and safety wired to supporting structure.

#### SC Safety Chain

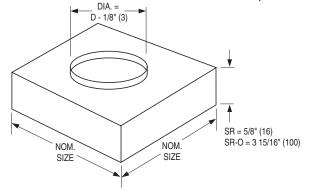
An optional safety chain is available on all of Nailor's round ceiling diffusers.

#### **GK** Foam Gaskets

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

#### SR Square to Round Transition Collar

Transition collars are for use on Nailor square neck diffusers where a round duct connection is required.



SQUARE NECK SIZE (INCHES)	ROUND NECK SIZE D (INCHES)
6 x 6	4, 5, 6
9 x 9	6, 7, 8, 9
12 x 12	6, 8, 9, 10, 12
15 x 15	6, 8, 10, 12, 14, 15
18 x 18	6, 8, 10, 12, 14, 15, 16, 18
21 x 21	6, 8, 10, 12, 14, 15, 16, 18,20

#### **EXTERNAL FOIL BACK INSULATION**

#### EX External Insulation Blanket - Factory Installed

An optional 1 1/2" thick foil back insulation is available installed on a majority of Nailor ceiling diffusers. The insulation has an R value of 4.2.

#### EXB External Insulation Blanket - Ships Loose

This insulation is the same as above but is shipped loose for field installation.

#### MIB Molded Insulation Blanket - Factory Installed

The molded insulation is available as an option on various 24" x 24" square diffusers. The insulation has an R value of 6.0.

#### FINISHES:

Options and Finishes

#### **BAKED ENAMEL PAINT**

#### AW Appliance White (standard)

A white finish that is currently the industry standard. Closely matches standard finishes supplied by the majority of T-Bar ceiling system manufacturers. (No additional cost).

#### AL Aluminum

Contains suspended metal particles to give the appearance of a silver grey metallic or anodized finish. (No additional cost).

#### WH Off-White

Has a creamy appearance. (Additional cost)

#### BK Black

This black has a matte finish. (Additional cost)

#### **BA Black Interior/Appliance White Face**

Optional on perforated diffusers. AW Appliance White is applied on the perforated face and BK Black is applied on the interior of the backpan for a discreet appearance. (No additional cost)

#### SP Special

The **Nailor** range of diffusers are available in any color for special architectural consideration. Custom colors are individually mixed to match customer supplied samples. (Additional cost)

#### **ACRYLIC**

#### **AAW Acrylic Appliance White**

Extra protection for your diffusers. This color matches the industry standard white finish. (Additional cost).

#### **ASP Acrylic Special Finish**

Extra protection for your diffusers. Custom colors are individually mixed to match customer supplied samples. (Additional cost)

#### **ALSO AVAILABLE**

#### MI Mill Finish

(No additional cost).

#### **PPA** Paint Prepared Metal (Washed only)

(No additional cost).

#### **PC Prime Coat**

(Additional cost).

# **Air Balancing Devices**

# Radial Opposed Blade Damper

A unique method of controlling volume through a diffuser providing premium design quality and performance. The multi-blade perimeter design offers true radial flow at any setting.

A screwdriver slot, accessible through the diffuser, requires only a half turn to adjust from fully closed to fully open. The damper is designed to fit directly on the neck of the diffuser. Simple, convenient and accurate installation and operation.

Available with an optional operator arm. **Model 4275-OA** allows damper adjustment on the **UNI Diffusers** without removing the inner cone assembly.

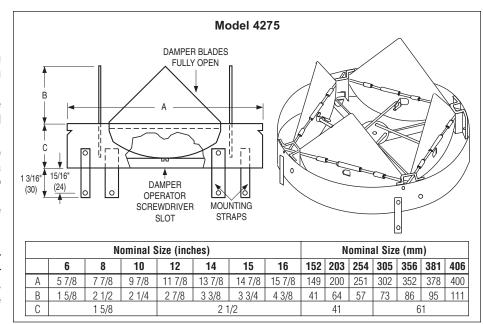
# Radial Sliding Blade Damper

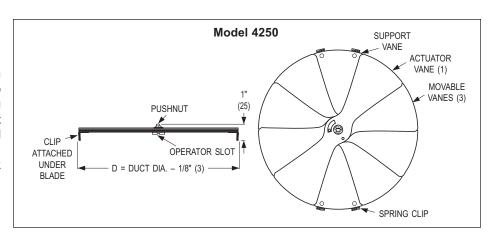
The **Model 4250** is a neck mounted radial sliding blade damper used in round neck diffuser applications to provide fine volume control. Gang operated radial blades slide at right angles to the duct with minimal protrusion above the diffuser neck; allowing the damper to work effectively in flexible duct applications. Available in sizes 6", 8", 10", 12" and 14" (152, 203, 254, 305 and 356).

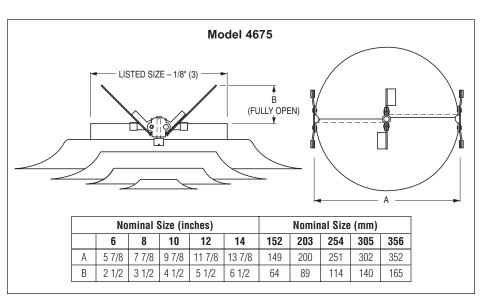
# **Butterfly Damper**

The Model 4675 Butterfly Damper is an economical damper for volume balancing in round neck diffusers. Adjustable friction pivots hold the blades at the required setting. Adjusted from the face of the diffuser.

Not recommended for use with flexible duct.







# **Air Balancing Devices**

#### OPPOSED BLADE DAMPERS

**Nailor** Opposed Blade Dampers feature heavy gauge, roll-formed, corrosion-resistant steel or extruded aluminum blades and frame with miscellaneous steel components.

The gang operated multi-blade design with blades closing at 45 degrees permits fine volume control for accurate balancing with minimum disturbance to the airflow pattern. Blades are individually pivoted on 1" (25) centers.

#### **DIFFUSER MOUNT MODELS:**

#### OBD Steel

#### **OBD-A Aluminum**

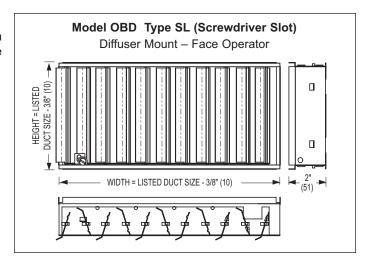
This style of damper mounts directly on the neck and are sized to suit most **Nailor** diffusers. Uses steel barbed S-clips for easy field mounting or removal when ordered separately. Supplied as standard with a screwdriver slot operator (Type SL). Can be specified as an integral part of the diffuser model by adding a - O (steel) or - OA (aluminum) suffix to the diffuser

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.

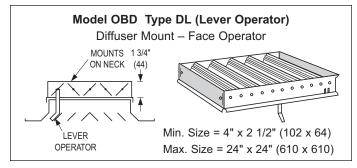
#### Type SL Operator

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

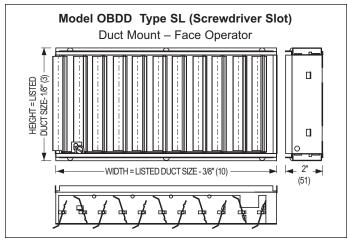
#### **OBDD-A Aluminum**

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)

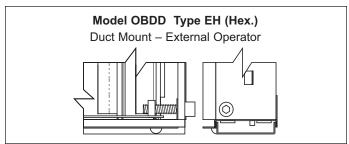
#### Type SL Operator

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.

# Model OBDD Type EN (Screwdriver Slot) Duct Mount – External Operator

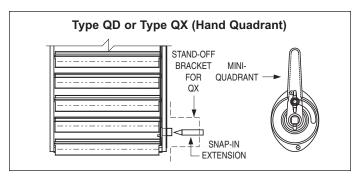
#### Type QD Operator \*

A snap-in shaft extension with 'mini' hand locking quadrant is available as an optional accessory.

#### Type QX Operator \*

A snap-in shaft extension with 'mini' hand locking quadrant and 2" (51) stand-off bracket for externally insulated ducts. Order damper with blades parallel to horizontal duct dimension to ensure quadrant is located on vertical side of the duct.

\*Not available on Model OBDD-A



# **Air Balancing and Directional Control Devices**

# Equalizing Grid for Round Necks

The **Model EGR** is a duct mounted grid that equalizes the airflow into the branch duct or diffuser neck and provides directional control. They are shipped loose for field installation. The individually adjusted vanes are friction pivoted to hold the desired setting.

Recommended method of installation is flush with the take-off collar and with the vanes perpendicular to the direction of the approaching airflow.

# Equalizing Grid for Square and Rectangular Necks

The **Models EGS** and **EGL** are duct mounted grids that equalize the airflow into the branch duct or diffuser neck and provide directional control. They are shipped loose for field installation. The individually adjusted vanes are friction pivoted to hold the desired setting.

Recommended method of installation is flush with the take-off collar and with the vanes perpendicular to the direction of the approaching airflow.

The suffix 'S' or 'L' indicates blades are parallel to the short or long dimension.

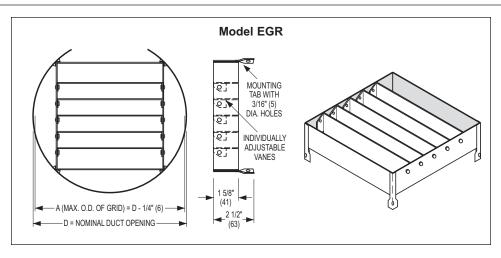
# Damper with Equalizing Grid for Round Necks

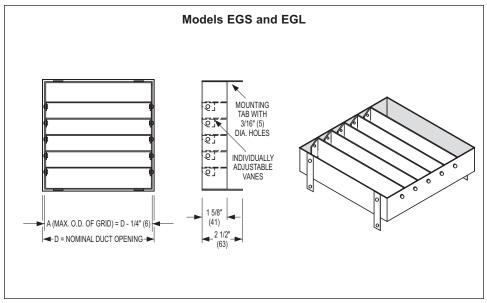
The **Model DEGR** is a duct mounted combination damper with equalizing grid.

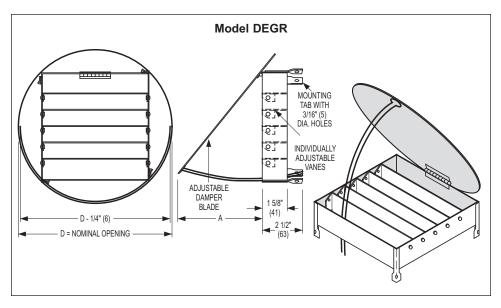
It performs as a volume extractor with dampering to near shut-off as well as equalizing the airflow into the branch duct or diffuser neck and providing directional control.

The individual adjustable vanes are friction pivoted to hold the desired setting.

Damper blade may be adjusted to any angle and locked in position with adjusting wires under screw heads.







# **Air Balancing and Directional Control Devices**

# Damper with Equalizing Grid for Square and Rectangular Necks

The **Models DEGS** and **DEGL** are duct mounted combination dampers with equalizing grids. They perform as a volume extractor with dampering to near shut-off as well as equalizing the airflow into the branch duct or diffuser neck and providing directional control.

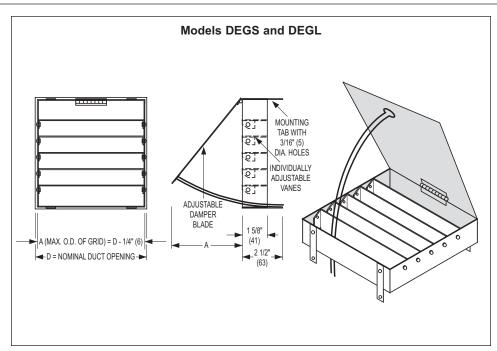
The individual adjustable vanes are friction pivoted to hold the desired setting.

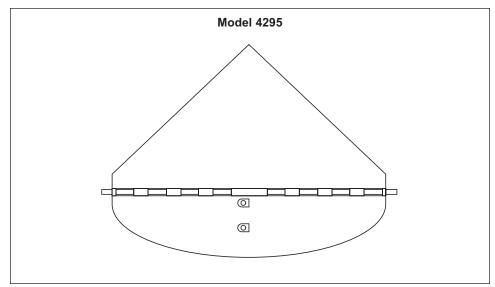
Damper blade may be adjusted to any angle and locked in position with adjusting wires under screw heads.

The suffix 'S' or 'L' indicates blades are parallel to the short or long dimension.

# Quadrant Blanks for RNS and RNSA Round Neck Diffusers

The Model 4295 Quadrant Blanks are for insertion into the diffuser neck to provide one, two or three-way discharge as may be required to accommodate nearby airflow obstructions. Quadrant Blanks are available for all neck sizes. Hinge pins on the unit clip easily into pre-set holes on the collar for simple installation.





## **Volume Extractors**

#### **MODEL SERIES**

EX Blades on 2" centers **EXD** Blades on 1" centers

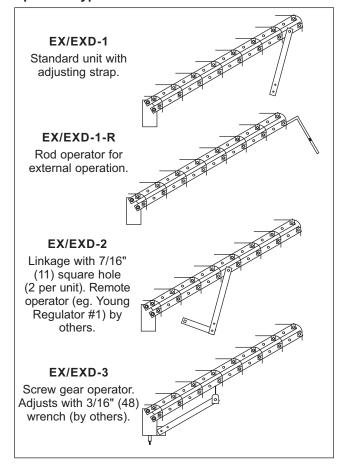
The Model Series EX Volume Extractors uniformly divert air from the main duct into the branch take-off and across the face of a grille or diffuser. Gang-operated parallel blades available on 2" (51) or 1" (25) centers pivot from full open to full closed with blades overlapping for shut-off. The curved blade design improves airflow by reducing turbulence, thereby reducing noise and pressure

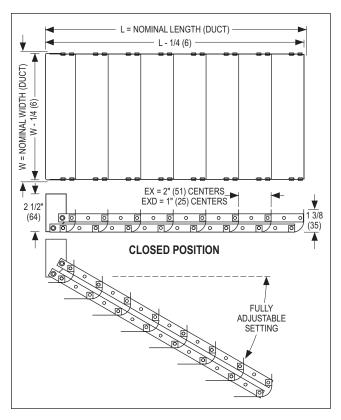
Specify or order: Length x Width. (Length is first dimension. Blades are parallel to width, second dimension).

#### **FEATURES:**

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

#### **Operator Types**





#### **Optional Accessories**

