

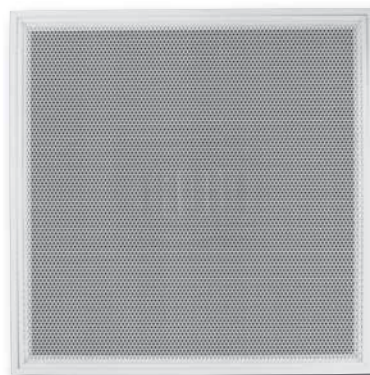
PREMIUM

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.

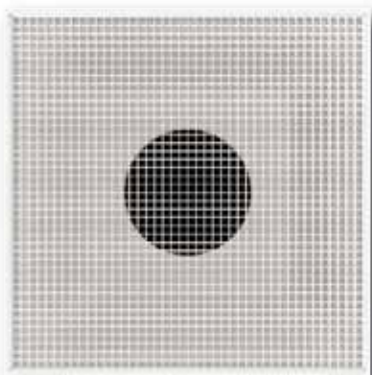
Flush Face

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

Page D217
 Page D217



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

Page D238
 Page D238

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

Page D243
 Page D243



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.

CURVED BLADE DIFFUSERS

- 1, 2, 3 OR 4-WAY DISCHARGE PATTERNS AVAILABLE

Steel Models:

61CC 1, 2, 3 or 4-Way

61CCD 1 or 2-Way with Rear Directional Vanes

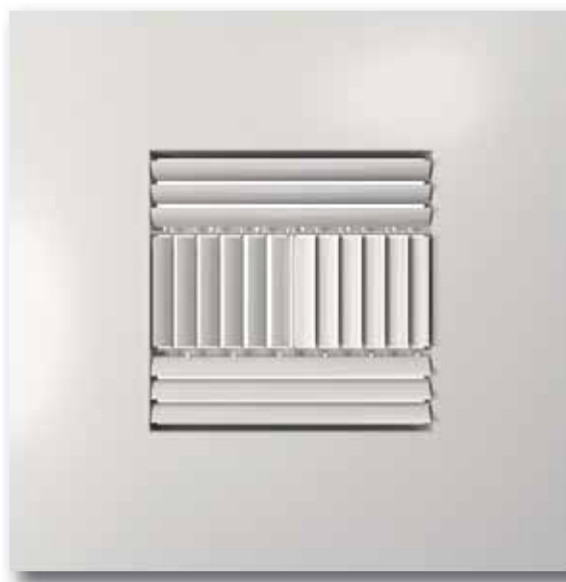
Aluminum Models:

51CC 1, 2, 3 or 4-Way

51CCD 1 or 2-Way with Rear Directional Vanes

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

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



Model 61CC

Model Series 61CC and 51CC Series Curved Blade Diffusers are similar in design and construction to the Nailor 61C and 51C Series Curved Blade Grilles with the addition of a modular sized panel to integrate with various types of ceiling systems. Available with the choice of a 1, 2, 3 or 4-way discharge pattern.

They also feature individually adjustable friction pivoted curved blades on 1" (25) centers that positively control the airflow. Blades are adjustable from the face, regulating the angle of discharge from a horizontal through to a full down-blow vertical pattern as required. Blades can also regulate air volume as they are closed off.

Available in a comprehensive range of square duct sizes to suit a large range of air volumes, these diffusers, when adjusted correctly, produce a tight horizontal ceiling pattern and work extremely well in variable air volume applications.

Nailor 61CCD and 51CCD Series, available in a 1 or 2-way discharge pattern are similar to the above but incorporate a set of rear vanes on 3/4" (19) centers that are individually adjustable, thus providing complete directional control and airflow equalization.

STANDARD FEATURES:

- Blades are formed to an engineered curved and streamlined cross-section. Formed with tenons at each end to fit snugly into side margin, friction loaded to firmly hold deflection setting.
- Adjustable angle of discharge from horizontal to vertical.
- Choice of one, two, three or four-way discharge patterns.
- A variety of frame/border styles to suit most ceiling systems.
- Available in square neck sizes 6" x 6" (152 x 152) through 21" x 21" (533 x 533) for standard 24" x 24" (600 x 600) ceiling modules.
- For non-listed rectangular sizes, see the 61C and 51C Series in this catalog and add a module sized extended panel (PL).

CONSTRUCTION MATERIAL:

- Models 61CC/61CCD have corrosion-resistant steel blades and panel. Models 51CC/51CCD have extruded aluminum blades and a corrosion-resistant steel panel.
- Optional steel or aluminum opposed blade dampers have a screwdriver slot operator accessible through the face of the diffuser.

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

Air Balancing Devices

(order separately)

Rectangular Neck:

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

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).

- EGR Equalizing Grid
- DEGR Damper/Equalizing Grid

For additional options and accessories; see page D257.

DIMENSIONAL DATA AND FRAME TYPES:

Models 61CC and 51CC

Type PL Panel Lay-in T-Bar

CM - 1/4" (6)

CM - 1/4" (6)

OPTIONAL REAR DEFLECTION VANES

CM = CEILING MODULE 24" x 24" (610 x 610)

NOMINAL DUCT SIZE - 1/4" (6)

OPTIONAL OPPOSED BLADE DAMPER

3.9/16" (90)

1-13/16" (46)

Standard Duct Sizes for 24 x 24 (600 x 600) Ceiling Module

Imperial Units (inches)				Metric Units (mm)			
6 x 6	10 x 10	15 x 15	21 x 21	152 x 152	254 x 254	381 x 381	553 x 553
8 x 8	12 x 12	16 x 16		203 x 203	305 x 305	406 x 406	
9 x 9	14 x 14	18 x 18		229 x 229	356 x 356	457 x 457	

Available Discharge Patterns:

4A 4-way **3A 3-way**

2A 2-way opposite **2C 2-way corner** **1A 1-way**

61CC and 51CC Diffusers may be ordered in any of the discharge patterns illustrated above.

Type TL Tegular Lay-in

CM = CEILING MODULE

CM - 1/4" (6)

3/8" (10)

CM - 1" (25)

15/16" (24) T-BAR

Type F Finline®

CM = CEILING MODULE

CM - 5/8" (16)

5/16" (8)

9/16" (14)

Type M Metal Pan (Snap-in)

CM = CEILING MODULE

CM - 1/16" (2)

13/16" (21)

Type SP Spline

CM = CEILING MODULE

CM - 1/16" (2)

3/8" (10)

For one directional exposed T-Bar or fully concealed grid. 1 spline on two opposite sides. Steel brackets on other.

Finline® is a registered trademark of USG Interiors Inc.

PERFORMANCE DATA:

Models 61CC, 61CCD, 51CC, 51CCD

Nom. Neck Size (inches)	Core Area (sq. ft.)	Neck Velocity, FPM	100	200	300	400	500	600	700	800	900	1000	
		Total Pressure	.003	.015	.032	.058	.094	.136	.182	.234	.302	.369	
6 x 6	.20	CFM			60	80	100	120	140	160	180	200	
		Noise Criteria			—	15	21	26	29	32	35	38	
		Throw	4-Way			4-6-9	5-8-13	6-9-15	8-11-17	9-13-20	10-15-23	11-16-26	12-17-28
			3-Way			4-6-10	6-9-14	7-10-16	8-12-19	10-14-22	11-16-25	12-17-28	13-19-31
			2-Way			5-7-11	6-9-15	8-11-17	9-14-21	10-16-24	12-17-28	13-19-31	15-21-39
1-Way				6-9-14	8-11-17	9-14-21	11-16-25	12-18-29	14-20-33	16-23-37	17-25-41		
8 x 8	.38	CFM		75	115	150	190	230	265	305	340	380	
		Noise Criteria		—	—	17	23	28	31	35	37	40	
		Throw	4-Way		3-4-7	5-7-11	6-9-15	8-11-17	9-13-20	10-16-24	12-17-27	13-18-30	14-20-33
			3-Way		3-5-8	5-7-12	6-9-15	8-12-18	10-14-22	11-16-25	14-18-29	14-20-32	15-22-36
			2-Way		4-6-9	5-8-13	7-11-16	9-13-20	10-16-24	12-17-28	14-20-32	15-22-36	16-25-40
1-Way			4-6-10	7-10-16	9-13-20	10-16-24	12-18-29	15-21-34	17-24-39	17-26-43	19-30-48		
10 x 10	.61	CFM	60	120	185	245	305	365	430	490	550	610	
		Noise Criteria	—	—	13	20	26	30	34	37	40	43	
		Throw	4-Way	2-3-4	4-6-9	5-8-13	7-11-16	9-13-20	10-16-24	12-17-27	13-19-21	15-21-35	16-24-39
			3-Way	2-3-5	4-6-9	6-9-14	8-11-17	9-14-21	11-16-26	13-18-30	14-20-33	16-24-38	17-26-42
			2-Way	2-3-5	4-6-10	6-9-15	8-12-19	10-16-24	12-17-28	14-20-33	16-23-37	17-26-42	19-28-46
1-Way	2-4-6		5-7-12	8-11-17	10-15-27	12-18-29	15-21-34	17-25-40	18-28-45	20-31-49	23-35-55		
12 x 12	.90	CFM	90	180	270	360	450	540	630	720	800	900	
		Noise Criteria	—	—	14	21	27	31	35	38	41	44	
		Throw	4-Way	2-3-5	4-6-9	6-9-14	8-12-18	10-14-22	11-16-26	13-18-30	15-21-34	16-23-38	17-26-42
			3-Way	2-3-5	4-6-10	6-9-15	8-12-19	10-16-24	12-17-28	14-20-32	16-23-37	17-25-41	19-28-46
			2-Way	2-4-6	5-7-11	7-11-16	9-14-21	11-16-26	13-19-31	15-22-36	17-25-41	19-28-46	21-31-51
1-Way	3-4-7		6-9-14	8-12-19	11-16-25	13-19-30	16-23-38	18-27-44	20-30-49	22-35-55	25-38-62		
14 x 14	1.24	CFM	125	250	375	500	620	745	870	995	1120	1240	
		Noise Criteria	—	—	15	23	29	33	37	40	43	46	
		Throw	4-Way	2-3-5	4-6-10	6-9-15	8-12-19	10-16-24	12-17-28	14-20-33	16-23-37	17-26-42	19-28-46
			3-Way	2-4-6	5-7-11	7-10-16	9-14-21	11-16-26	13-19-31	15-22-36	16-25-40	18-28-45	20-31-49
			2-Way	2-4-6	5-7-12	8-11-17	10-15-23	12-18-29	15-21-34	16-25-40	18-28-45	20-31-49	23-35-55
1-Way	3-5-8		6-9-15	9-14-20	12-17-28	15-21-34	17-25-40	19-29-47	22-33-53	25-38-60	28-42-67		
15 x 15	1.44	CFM	145	290	430	575	720	860	1005	1150	1290	1435	
		Noise Criteria	—	—	15	23	29	33	37	40	43	46	
		Throw	4-Way	2-4-6	4-6-10	7-10-16	9-13-20	10-16-24	12-18-29	15-21-34	16-23-38	17-26-38	19-29-47
			3-Way	2-4-6	5-7-11	7-11-16	9-14-21	11-16-28	13-19-31	15-22-36	17-25-41	19-27-46	21-31-50
			2-Way	3-4-7	5-8-13	8-12-18	10-16-24	12-18-29	15-21-35	17-25-41	19-28-46	21-32-51	24-36-57
1-Way	3-5-8		6-9-15	10-14-22	12-17-28	15-21-35	17-26-42	20-30-49	22-34-54	25-38-61	28-43-68		
16 x 16	1.64	CFM	165	330	490	655	820	985	1150	1315	1480	1640	
		Noise Criteria	—	—	16	24	29	34	38	41	44	47	
		Throw	4-Way	2-4-6	5-7-11	7-10-16	9-13-20	11-16-25	13-18-30	15-21-35	16-24-39	18-27-44	20-30-49
			3-Way	2-4-6	5-7-12	7-11-16	10-14-22	12-17-27	14-20-32	16-23-38	17-26-43	19-30-48	21-33-52
			2-Way	3-4-7	5-8-13	8-12-18	10-16-24	13-19-31	15-22-36	17-26-42	19-29-46	22-33-53	24-36-58
1-Way	3-5-8		7-10-16	10-14-22	12-18-29	15-22-36	17-26-43	20-31-49	23-35-49	26-40-63	29-45-71		
18 x 18	2.10	CFM	210	420	630	840	1050	1260	1470	1680	1890	2100	
		Noise Criteria	—	—	17	25	30	35	39	42	45	48	
		Throw	4-Way	2-4-6	5-7-12	8-11-17	10-14-22	12-17-27	14-20-33	16-23-43	17-26-43	19-30-48	22-33-53
			3-Way	3-4-7	5-8-13	8-12-18	10-16-24	12-18-29	15-21-35	17-25-41	19-28-46	21-32-51	24-36-57
			2-Way	3-4-7	6-9-14	9-13-20	12-17-29	14-20-33	17-24-39	18-28-45	21-31-50	24-36-57	27-40-64
1-Way	4-6-9		7-11-16	10-16-24	14-20-32	16-24-39	20-39-47	22-33-53	25-38-60	28-43-68	32-49-78		
21 x 21	2.88	CFM	290	575	865	1155	1440	1730	2020	2305	2595	2885	
		Noise Criteria	—	—	19	27	32	37	41	44	47	50	
		Throw	4-Way	3-4-7	5-8-13	8-12-18	11-16-25	13-18-30	15-22-36	17-26-42	19-30-48	22-34-53	25-38-60
			3-Way	3-4-7	6-9-14	9-13-20	11-16-26	14-20-33	16-24-39	18-28-45	21-31-50	24-37-57	27-40-64
			2-Way	3-5-8	7-10-16	10-15-23	12-18-29	16-23-37	18-27-44	20-31-49	23-35-56	26-41-63	29-45-71
1-Way	4-6-10		8-12-18	12-17-27	15-20-37	18-27-44	21-32-51	25-38-60	28-42-67	32-49-77	36-54-86		

Performance Notes:

- Pressures are expressed in inches of water gauge.
- Throw values are given for terminal velocities of 150, 100 and 50 fpm, with a cooling temperature differential (ΔT) of 20°F and are based on surface mount units benefiting from the coanda effect. The blade

settings were set for optimum discharge, parallel to the face of the grille, that have the outer blades closest to the frame set with an opening of 1/8" (3) and progressively wider spacing between blades away from the frame. (**Note:** The throw values may be increased or decreased by as much as 20% by changing the blade setting).

- Blades in the full open position
 - reduce the Noise Criteria by 6.
 - multiply the Total Pressure x 0.3.
- The Noise Criteria (NC) values are based on a room absorption of 10 dB, re 10⁻¹² watts.
- Data derived from tests conducted in accordance with ANSI/ASHRAE Standard 70 – 2006.

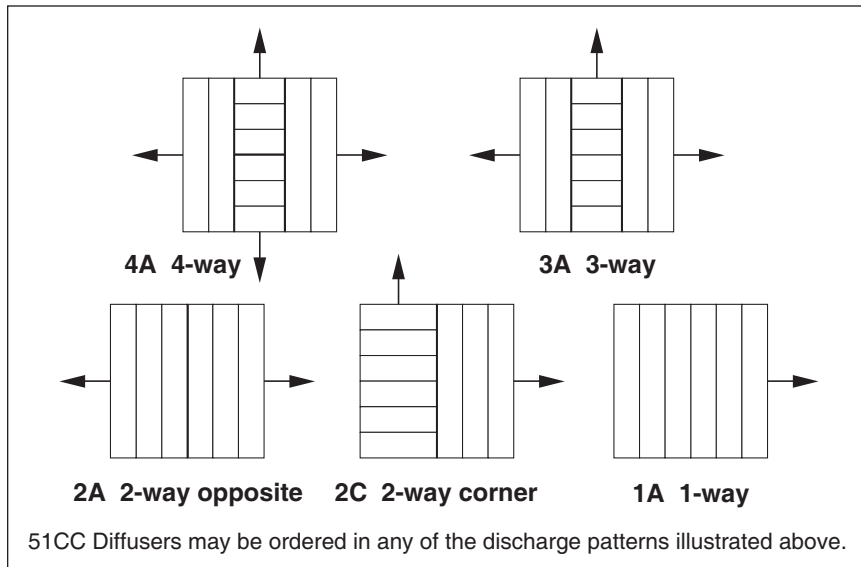
HOW TO SPECIFY OR TO ORDER

ALUMINUM CURVED BLADE CEILING DIFFUSERS – MODEL SERIES 51CC

EXAMPLE: 51CC - O - 12 x 12 - 24 x 24 - PL - AW - DMI - 4A - SR08 - -

- | | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>1. Model
51CC Aluminum
51CCD Aluminum with rear vanes</p> <p>2. Damper
– None
O Opposed Blade (steel)
OA Opposed Blade (aluminum)</p> <p>3. Neck Size (inches)
Square:
6 x 6, 8 x 8, 9 x 9, 10 x 10, 12 x 12,
14 x 14, 15 x 15, 16 x 16, 18 x 18,
21 x 21</p> <p>4. Ceiling Module Size
Standard module
Imperial (inches)
24 x 24 (default)
Metric (mm)
600 x 600</p> | <p>5. Frame Type
PL Panel Lay-in T-Bar (default)</p> <p>6. Finish
AW Appliance White (default)
AL Aluminum
BK Black
LBP Light Bronze Paint
MBP Medium Bronze Paint
DBP Dark Bronze Paint
BW British White
MI Mill
PC Prime Coat Paint
SP Special Custom Color</p> <p>7. OBD Finish
DMI Mill (default)
DBK Painted Black</p> | <p>8. Blow Pattern
4A 4-way (default)
3A 3-way
2C 2-way corner
2A 2-way opposite
1A 1-way</p> <p>OPTIONS & ACCESSORIES:</p> <p>9. Transition Collar
SR Square to Round Transition Collar (04 through 20 specify)</p> <p>10. Earthquake Tabs
– None (default)
EQT Earthquake Tabs</p> <p>OTHER OPTIONS & ACCESSORIES:</p> <p>Air Balancing Devices
(order separately)</p> <p>Rectangular Neck:
EGL Equalizing Grid (long)
DEGL Damper/Equalizing Grid (long)</p> <p>Round Neck:
4250 Radial Sliding Blade Damper 6" – 14".
4275 Radial Opposed Blade Damper 5" – 24".
4675 Butterfly Damper 6" – 14".
EGR Equalizing Grid
DEGR Damper/Equalizing Grid</p> |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Available Discharge Patterns:



SUGGESTED SPECIFICATION:

Models 51CC, 51CCD – Aluminum

Furnish and install **Nailor Model** (select one) **51CC** or **51CCD** (with deflector vanes) **Aluminum Curved Blade Supply Diffusers** of the sizes and capacities as shown on the plans and air distribution schedules. The diffuser shall have a steel panel type frame that has a square neck and contains an extruded aluminum curved blade pack with individually adjustable blades. The blade pack shall be configured in a 4, 3, 2 or 1-way pattern as specified. The finish shall be AW Appliance White (optional finishes are available).

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

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

HOW TO SPECIFY OR TO ORDER

STEEL CURVED BLADE CEILING DIFFUSERS – MODEL SERIES 61CC

EXAMPLE: 61CC - O - 12 x 12 - 24 x 24 - PL - AW - DMI - 4A - SR08 - -

- | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>1. Model
61CC Steel
61CCD Steel with rear vanes</p> <p>2. Damper
– None (default)
O Opposed Blade (steel)</p> <p>3. Neck Size (inches)
Square:
6 x 6, 8 x 8, 9 x 9, 10 x 10, 12 x 12,
14 x 14, 15 x 15, 16 x 16, 18 x 18,
21 x 21</p> <p>4. Ceiling Module Size
Standard module
Imperial (inches)
24 x 24 (default)
Metric (mm)
600 x 600</p> | <p>5. Frame Type
PL Panel Lay-in T-Bar (default)</p> <p>6. Finish
AW Appliance White (default)
AL Aluminum
BK Black
LBP Light Bronze Paint
MBP Medium Bronze Paint
DBP Dark Bronze Paint
BW British White
MI Mill
PC Prime Coat Paint
SP Special Custom Color</p> <p>7. OBD Finish
DMI Mill (default)
DBK Painted Black</p> | <p>8. Blow Pattern
4A 4-way (default)
3A 3-way
2C 2-way corner
2A 2-way opposite
1A 1-way</p> <p>OPTIONS & ACCESSORIES:</p> <p>9. Transition Collar
SR Square to Round Transition Collar (04 through 20 specify)</p> <p>10. Earthquake Tabs
– None (default)
EQT Earthquake Tabs</p> |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

OTHER OPTIONS & ACCESSORIES:

Air Balancing Devices
(order separately)

Rectangular Neck:

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

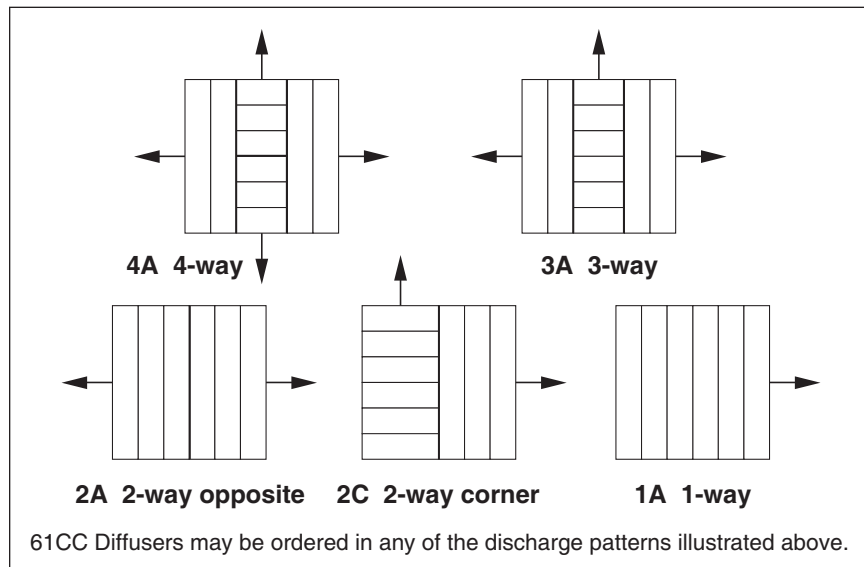
Round Neck:

4250 Radial Sliding Blade Damper
6" – 14".
4275 Radial Opposed Blade Damper
5" – 24".
4675 Butterfly Damper
6" – 14".
EGR Equalizing Grid
DEGR Damper/Equalizing Grid

Notes:

1. Consult individual models as to limitations of module, panel, neck size, core styles and accessories combinations.

Available Discharge Patterns:



SUGGESTED SPECIFICATION:

Models 61CC, 61CCD – Steel

Furnish and install **Nailor Model** (select one) **61CC** or **61CCD** (with deflector vanes) **Steel Curved Blade Supply Diffusers** of the sizes and capacities as shown on the plans and air distribution schedules. The diffuser shall have a corrosion-resistant steel, panel type frame that has a square neck and contains an extruded aluminum curved blade pack with individually adjustable blades. The blade pack shall be configured in a 4, 3, 2 or 1-way pattern as specified. The finish shall be AW Appliance White (optional finishes are available). (Optional) An opposed blade damper, constructed of heavy gauge corrosion-resistant steel, operable from the face of the diffuser, shall be provided with all units.

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

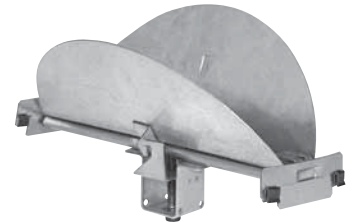
Model DFA
Drywall/Plaster Frame
Surface Mount
Ceiling Adapter



Model 4275
Radial Opposed
Blade Damper



Model 4250
Radial Sliding Blade Damper



Model 4675
Butterfly Damper



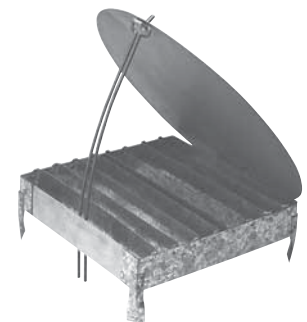
Model OBD
Opposed Blade Damper
Steel, Neck Mount



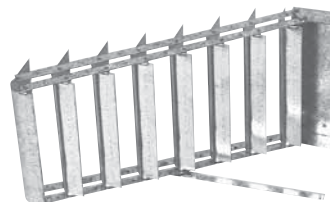
Model OBDD
Opposed Blade Damper
Steel, Duct Mount



Model EGR
Equalizing Grid



Model DEGR
Damper with Equalizing Grid



Model EX-1
Volume Extractor

Mounting Frames

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.

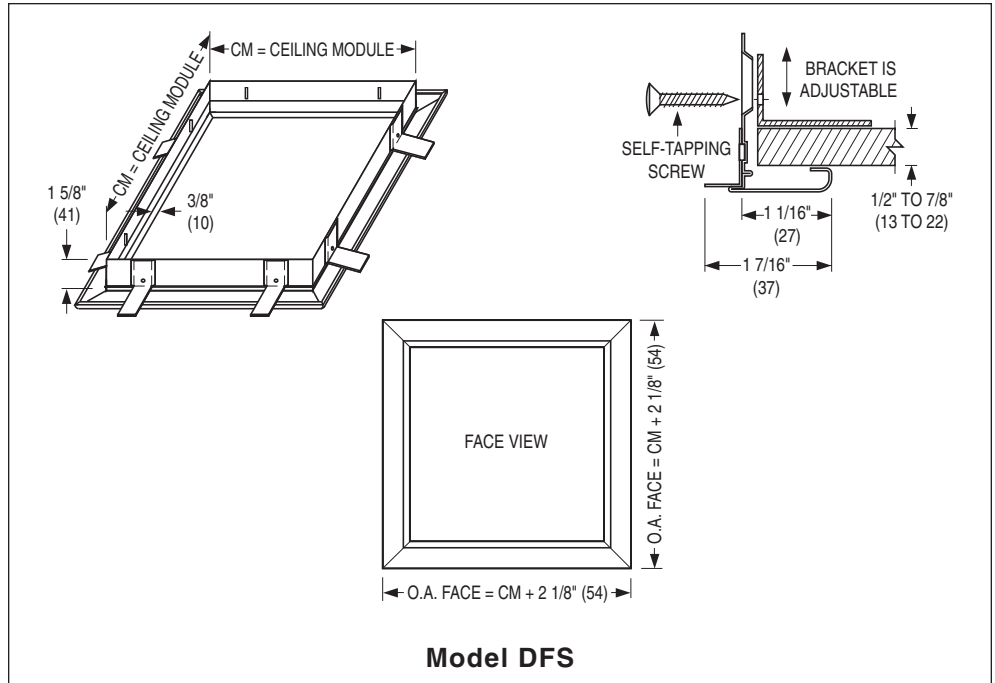
A major benefit is that the DF Series allows access to the ceiling plenum space above for maintenance purposes without the need for separate access doors. The finished appearance is professional and aesthetically pleasing.

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

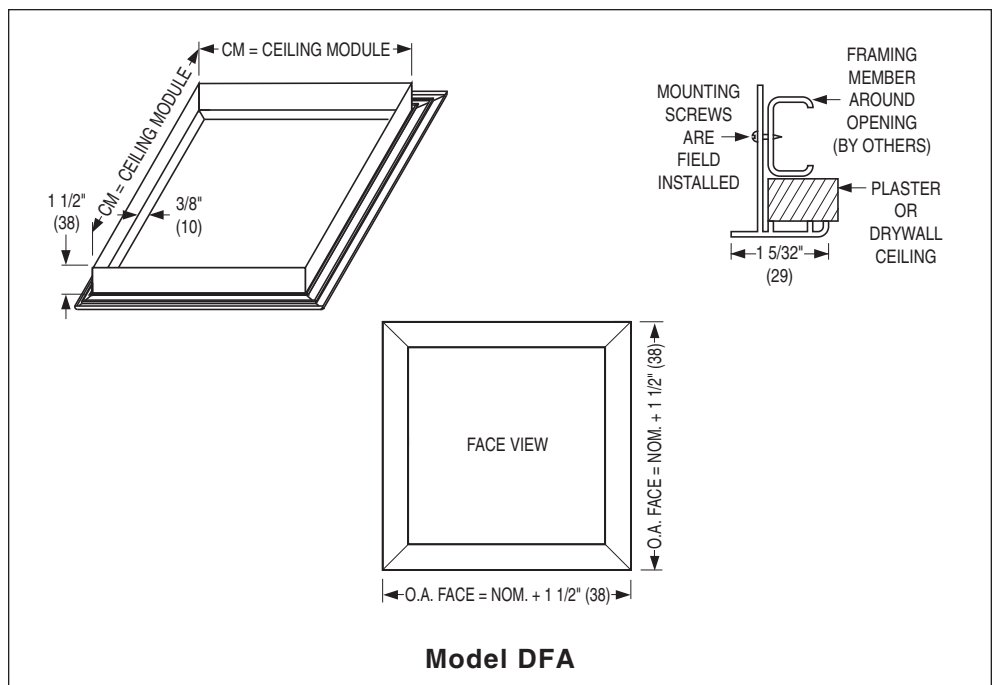
Ceiling opening = CM + 1/4" (6)



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

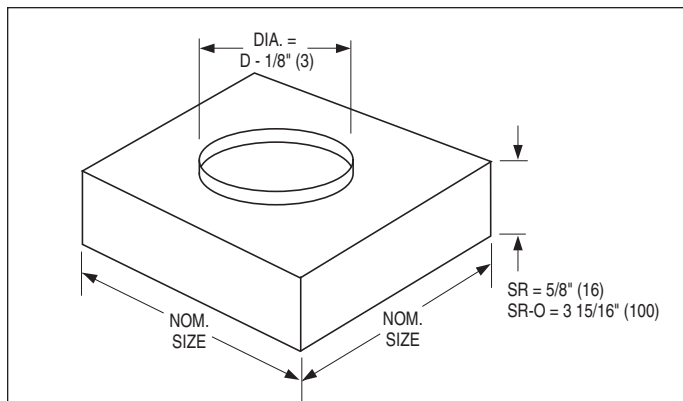
An optional safety chain is available on all of Nailor's round ceiling diffusers.

GK Foam Gaskets

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

SR Square to Round Transition Collar

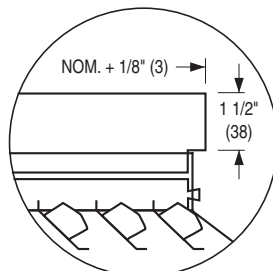
Transition collars are for use on Nailor square neck diffusers where a round duct connection is required. Round necks are sized for flexible or hard duct connection. SR's are shipped loose for field installation and are supplied with barbed S clips.



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
A	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	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
C	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
A	5 7/8	7 7/8	9 7/8	11 7/8	13 7/8	149	200	251	302	352
B	2 1/2	3 1/2	4 1/2	5 1/2	6 1/2	64	89	114	140	165

D

CEILING DIFFUSERS

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

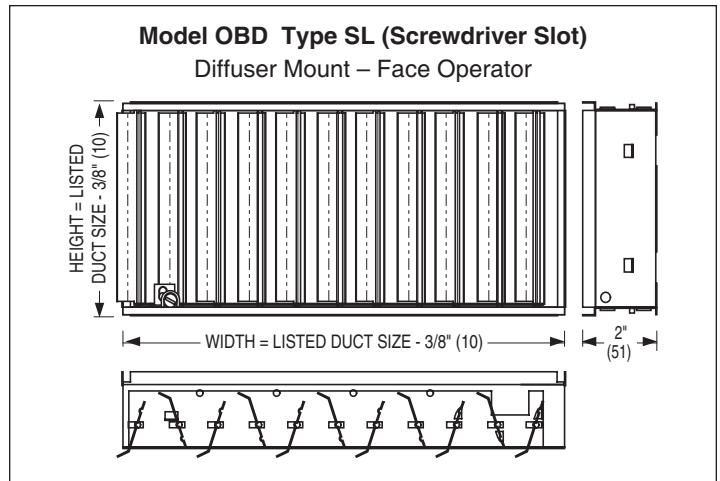
This style of damper mounts directly on the neck and are sized to suit most **Nailor** diffusers. Uses steel barbed S-clips for easy field mounting or removal when ordered separately. Supplied as standard with a screwdriver slot operator (Type SL).

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.

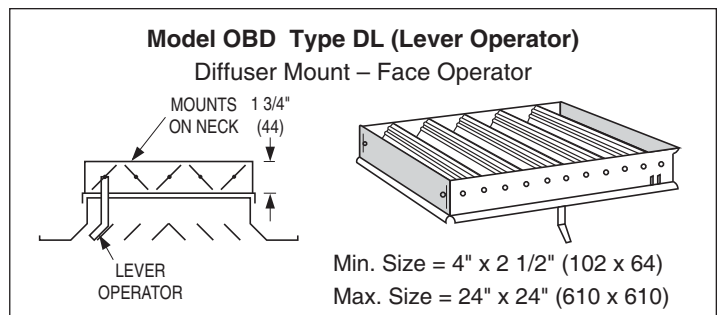
Type SL Operator

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:

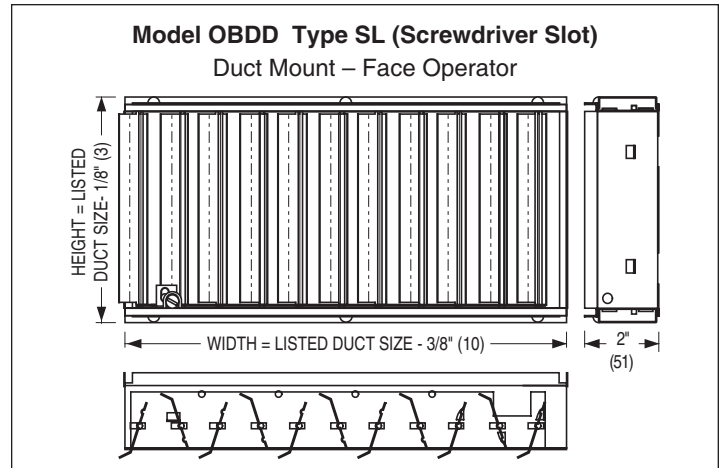
OBDD Steel

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).

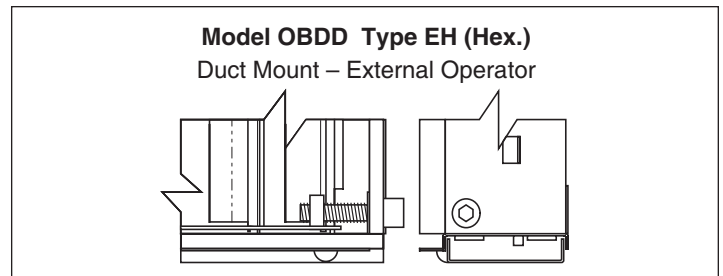
Type SL Operator

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



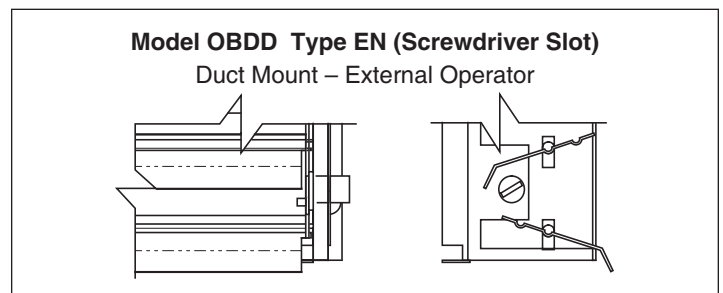
Type EH Operator

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.



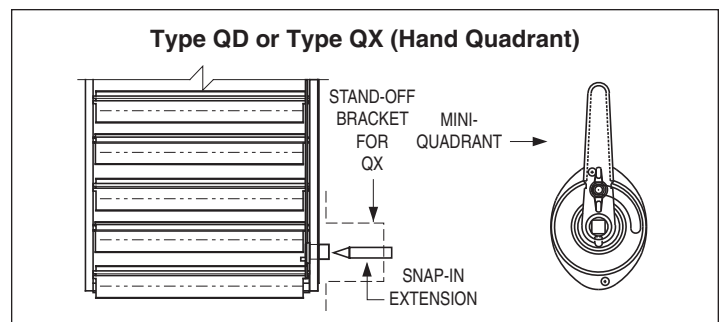
Type QD Operator *

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

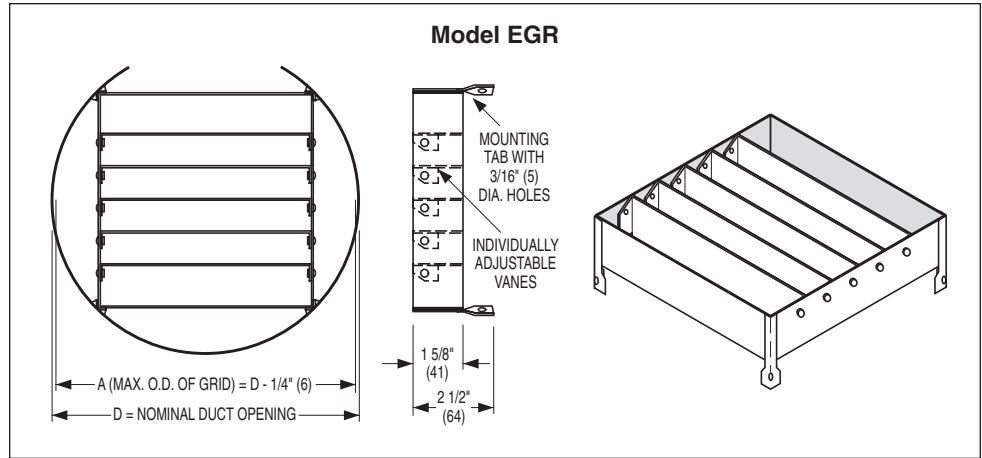


Air Balancing and Directional Control Devices

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.

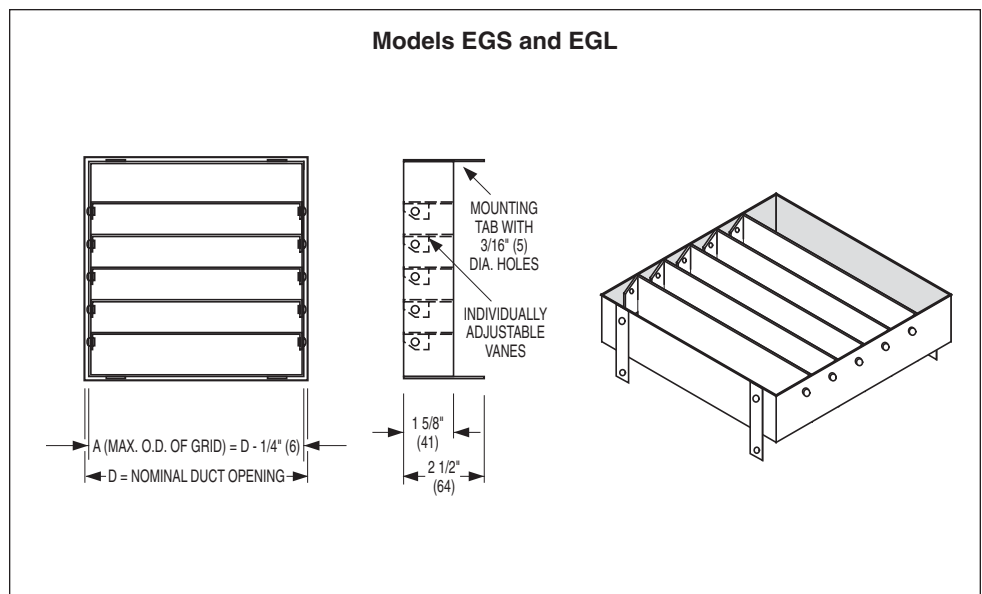


Equalizing Grid for Square and Rectangular Necks

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.



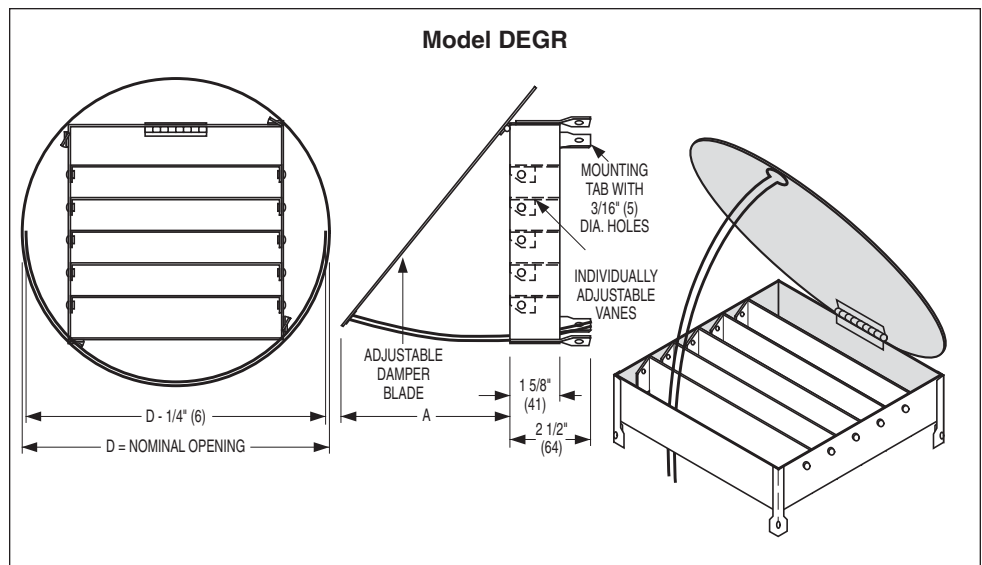
Damper with Equalizing Grid for Round Necks

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

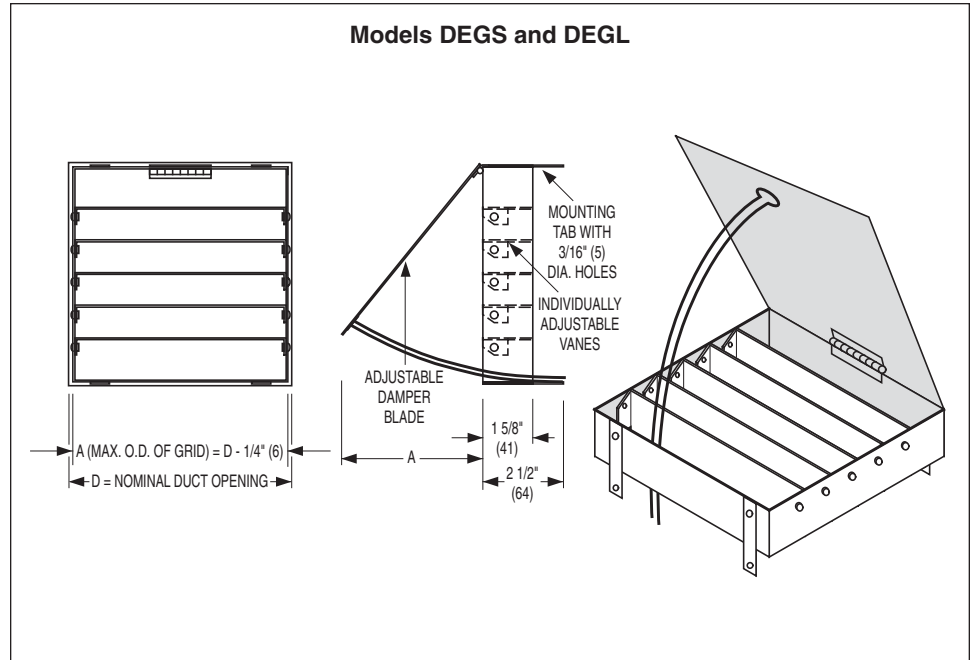
Damper with Equalizing Grid for Square and Rectangular Necks

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).

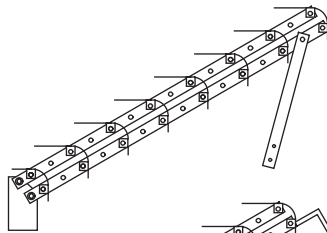
FEATURES:

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

Operator Types

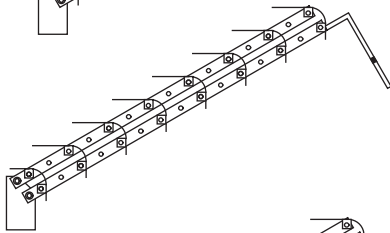
EX/EXD-1

Standard unit with adjusting strap.



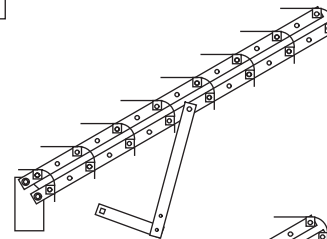
EX/EXD-1-R

Rod operator for external operation.



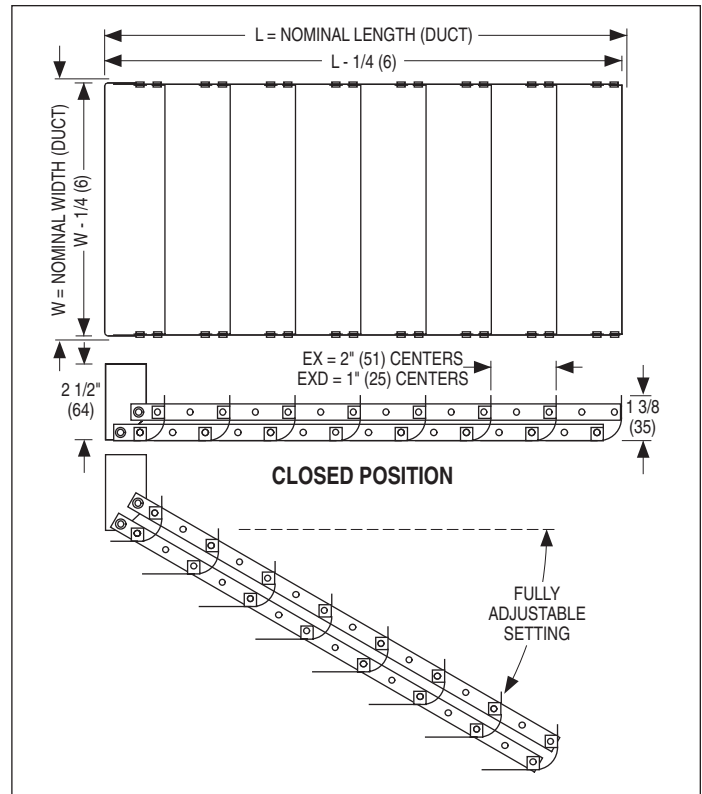
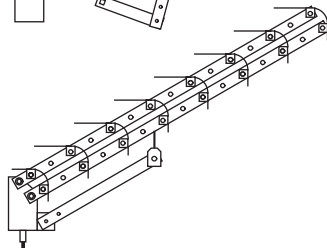
EX/EXD-2

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**.

