

"TWISTER" HIGH INDUCTION STAMPED FACE

The "Twister" diffuser is engineered to optimize air distribution effectiveness. This next generation diffuser has a high induction, 360° swirl pattern for a superior coanda effect. It is available for a 2' x 2' (600 x 600) ceiling module with a choice of five round neck sizes.

Steel Construction – High Induction

Fixed Pattern Model TWR "Twister" Swirl Pattern **Page D101**



Model TWR



Models UNI, 5000CTD, UNI-PD

ARCHITECTURAL SQUARE

Designed with the architect in mind, the diffusers in this series are fashioned to blend in with most ceiling types in order to create the ultimate in aesthetic looks. Nailor has accomplished this while still offering a variety of diffuser designs that provide flexibility in both style, selection and engineering performance.

Flat Panel

Steel Construction –	Model UNI	Page D104
Aluminum Construction –	Model AUNI	Page D104
Steel with Ceiling Tile –	Model UNI-RC	Page D106

Downblast –

Steel Fixed Perforated –	Model UNI-PD	Page D115
Steel Adjustable –	Model UNI-AD	Page D118
Steel Round Plaque Face –	Model UNI-RP	Page D121

Ceiling Tile Slot –

Supply	Model Series 5000CTD	Page D128
Return	Model Series 5000RCTD	Page D128

Plaque Face

Steel Construction –	Model UNI2	Page D112
Aluminum Construction –	Model AUNI2	Page D112
Steel Construction –	Model 6600	Page D134

Plaque Face with Perimeter Slots

Steel Construction –	Model 66UNI	Page D139
----------------------	-------------	------------------

ROUND

Nailor's round diffusers are available in steel or aluminum construction, with adjustable or fixed patterns. Included in this series of diffusers is a 'Plaque' style for architectural ceilings and a 'Downblast' type for high ceiling areas.

Adjustable Horizontal Pattern

Steel Construction –	Model RNR	Page D143
Aluminum Construction –	Model ARNR	Page D143

Adjustable Horizontal to Vertical Pattern

Steel Construction –	Model RNRA1	Page D146
Aluminum Construction –	Model ARNRA1	Page D146

Fully Adjustable Horizontal/Vertical Pattern

Aluminum Construction –	Model 6300R	Page D148
-------------------------	-------------	------------------

Plaque Face Horizontal Pattern

Steel Construction –	Model RUNI	Page D150
Aluminum Construction –	Model ARUNI	Page D150

Downblast Adjustable Horizontal/Vertical Pattern

Steel Construction –	Model RDB	Page D152
----------------------	-----------	------------------



Models RUNI, RNR, RDB

ARCHITECTURAL PLAQUE DIFFUSERS

- ADJUSTABLE OPENING
- SQUARE FACE
- SQUARE NECK



Model 6600

Model:

6600 Steel

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

Model Series 6600 Ceiling Diffusers have been designed to satisfy both architectural and engineering criteria. The clean uncluttered face panel design compliments any decor, blending beautifully with virtually any architectural style or requirement.

The face panel, which is located below the ceiling line, provides a horizontal discharge and a 360° diffusion pattern at minimum NC levels required for high engineering performance. This makes the 6600 Series ideally suitable for VAV systems. The face panel is adjustable by means of four spring-loaded countersunk screws located at the four corners of the panel which can be positioned to provide a 1/2" (13) to 1 1/4" (32) variable opening. This provides great flexibility, as the diffusers length of throw at any given air volume may be increased or decreased in order to adapt to field conditions.

The 6600 Series are designed for both surface mount and lay-in T-Bar applications with the addition of a ceiling module sized panel. The collar is a full 1 1/2" (38) in height for easy, secure duct connection.

STANDARD FEATURES:

- Engineered air diffusion patterns.
- Square duct sizes are available in 3" (76) increments.

Minimum Size: 6" x 6" (152 x 152).

Maximum Size: 18" x 18" (457 x 457).

- High neck collar for secure connection.
- Face panel features a hemmed finish providing both strength and a professional, clean, safety edge.
- Roll-formed steel opposed blade damper available with a lever operator that permits volume control without removing face panel.

- Optional factory installed hinged air deflectors are available for 1, 2 or 3-way directional control.

CONSTRUCTION MATERIAL:

Corrosion-resistant steel.

FINISH OPTIONS:

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

OPTIONS & ACCESSORIES:

EQT Earthquake Tab

SR Square to Round Transition Collars are available for round flexible duct connection. See page D257.

For additional options and accessories; see page D255.

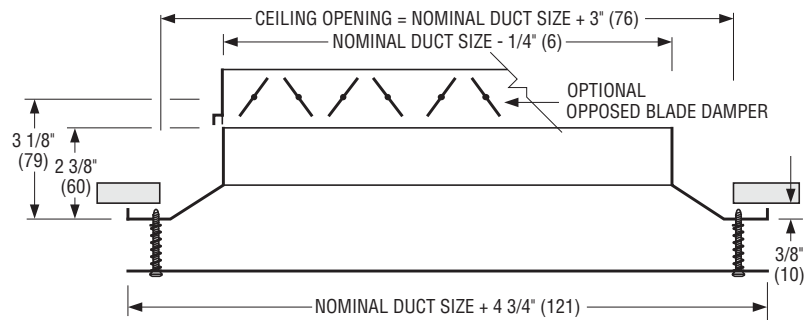
DIMENSIONAL DATA AND FRAME TYPES:

MODEL 6600

Type S Surface Mount

Available Duct Sizes

Inches	mm
6 x 6	152 x 152
9 x 9	229 x 229
12 x 12	305 x 305
15 x 15	381 x 381
18 x 18	457 x 457

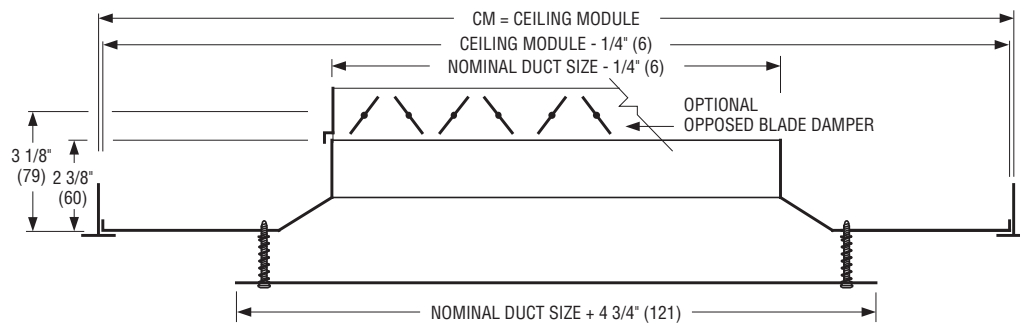


Type PL Panel Mounted Lay-in T-Bar

Available Sizes

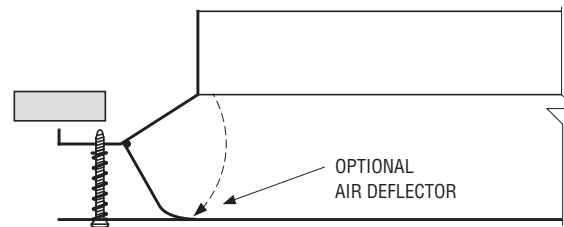
Ceiling Module Size		Duct Size			
Imperial (inches)	Metric (mm)	Minimum		Maximum	
		inches	mm	inches	mm
20 x 20	500 x 500	6 x 6	152 x 152	12 x 12	305 x 305
24 x 24	600 x 600	6 x 6	152 x 152	18 x 18	457 x 457

Duct sizes are available in 3" (76) increments.

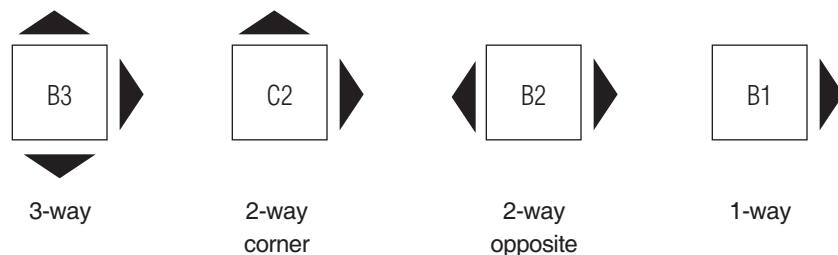


Directional Blow Option

- Factory installed.
- Hinged air deflector(s) for 1, 2 or 3-way blow pattern.
- Simple adjustment from face of diffuser provides field location flexibility.
- Deflector swings up or down from outer cone providing a full length blank-off.
- Finish to match diffuser.
- One, two or three deflectors are supplied and installed dependent upon blow pattern specified.



Blow Patterns



PERFORMANCE DATA:

MODEL 6600 • SQUARE NECK

Neck Size	Face Opening	Neck Velocity, FPM Velocity Pressure Airflow, CFM	160	240	320	400	600	800	1000	1200	1400
			.002 40	.004 60	.006 80	.010 100	.023 150	.040 200	.063 250	.090 300	.122 350
6 x 6	1 1/4"	Total Pressure				.03	.06	.10	.16	.23	.31
		Throw				1	3	5	6	7	9
		Noise Criteria				13	18	21	25	30	36
	1"	Total Pressure			.02	.03	.07	.11	.17	.26	.34
		Throw			2	2	4	6	7	8	10
		Noise Criteria			—	13	18	21	25	31	37
	3/4"	Total Pressure	.01	.01	.02	.03	.08	.13	.21	.30	.41
		Throw	2	2	3	3	5	7	8	9	10
		Noise Criteria	—	—	—	14	19	22	26	32	38
	1/2"	Total Pressure	.01	.02	.03	.05	.10	.18	.28	.41	.56
		Throw	3	3	4	4	6	8	9	10	11
		Noise Criteria	—	—	—	15	20	23	26	35	40

Neck Size	Face Opening	Neck Velocity, FPM Velocity Pressure Airflow, CFM	89	133	178	267	356	444	533	711	800
			.001 50	.001 75	.002 100	.004 150	.008 200	.012 250	.018 300	.031 400	.040 450
9 x 9	1 1/4"	Total Pressure				.01	.02	.04	.06	.10	.12
		Throw				2	3	5	6	8	9
		Noise Criteria				12	17	20	23	32	37
	1"	Total Pressure			.01	.02	.03	.05	.07	.12	.15
		Throw			2	4	5	6	7	10	11
		Noise Criteria			—	13	18	21	24	33	39
	3/4"	Total Pressure		.01	.01	.03	.04	.07	.10	.17	.21
		Throw		2	3	5	6	7	9	11	13
		Noise Criteria		—	—	14	19	22	25	35	40
	1/2"	Total Pressure	.01	.01	.02	.04	.07	.12	.17	.29	.37
		Throw	2	3	4	6	7	9	10	13	14
		Noise Criteria	—	—	—	15	20	23	26	37	42

Neck Size	Face Opening	Neck Velocity, FPM Velocity Pressure Airflow, CFM	50	100	150	200	250	300	400	500	600
			.001 50	.001 100	.002 150	.003 200	.004 250	.006 300	.010 400	.016 500	.023 550
12 x 12	1 1/4"	Total Pressure			.01	.01	.02	.03	.04	.07	.09
		Throw			3	4	6	7	9	12	13
		Noise Criteria			—	13	17	21	26	33	38
	1"	Total Pressure		.01	.01	.02	.03	.04	.06	.09	.12
		Throw		2	4	5	7	8	10	13	14
		Noise Criteria		—	—	13	17	21	26	34	38
	3/4"	Total Pressure		.01	.01	.03	.04	.06	.09	.15	.18
		Throw		3	5	6	7	9	11	14	15
		Noise Criteria		—	—	14	18	22	27	35	40
	1/2"	Total Pressure	.01	.01	.03	.05	.07	.10	.18	.28	.34
		Throw	2	4	6	7	8	10	12	15	17
		Noise Criteria	—	—	—	15	20	23	30	39	45

For performance notes, see D137.

D

CEILING DIFFUSERS

PERFORMANCE DATA:

MODEL 6600 • SQUARE NECK

Neck Size	Face Opening	Neck Velocity, FPM Velocity Pressure Airflow, CFM	32	64	96	128	192	256	320	384	448
			.001 50	.001 100	.001 150	.001 200	.002 300	.004 400	.006 500	.009 600	.013 700
15 X 15	1 1/4"	Total Pressure				.01	.01	.03	.05	.06	.09
		Throw				3	5	6	9	10	12
		Noise Criteria				—	18	22	27	33	39
	1"	Total Pressure			.01	.01	.02	.04	.06	.09	.12
		Throw			2	4	6	8	11	13	14
		Noise Criteria			—	13	19	23	28	35	42
	3/4"	Total Pressure		.01	.01	.02	.03	.07	.10	.14	.19
		Throw		2	4	5	8	10	13	15	17
		Noise Criteria		—	—	—	15	21	26	32	40
	1/2"	Total Pressure	.01	.01	.02	.03	.07	.13	.20	.28	.38
		Throw	2	3	5	6	9	12	15	18	21
		Noise Criteria	—	—	—	15	21	26	32	40	49

Neck Size	Face Opening	Neck Velocity, FPM Velocity Pressure Airflow, CFM	22	44	89	133	178	222	267	311	356
			.001 50	.001 100	.001 200	.001 300	.002 400	.003 500	.005 600	.006 700	.008 800
18 X 18	1 1/4"	Total Pressure			.01	.01	.02	.03	.05	.07	.08
		Throw			2	4	6	6	9	11	13
		Noise Criteria			—	14	20	23	28	33	40
	1"	Total Pressure			.01	.02	.03	.05	.07	.10	.13
		Throw			3	5	8	8	10	14	15
		Noise Criteria			—	14	20	24	29	35	43
	3/4"	Total Pressure	.01	.01	.01	.03	.05	.07	.12	.15	.20
		Throw	2	3	5	7	9	10	14	16	18
		Noise Criteria	—	—	—	15	21	25	31	37	46
	1/2"	Total Pressure	.01	.01	.02	.05	.10	.14	.22	.29	.38
		Throw	2	4	6	9	12	14	17	19	21
		Noise Criteria	—	—	10	16	22	27	33	40	50

Performance Notes:

- All pressures are in inches w.g..
- Throw values are given for a terminal velocity of 50 fpm under isothermal conditions.
- The addition of direction blow blank-offs reduces the effective area and for a given air volume, increases the discharge velocity with a resultant increase in throw, pressure drop and sound level. To determine throw, select the diffuser as if it were supplying a larger volume of air. The table shows the percentage increase required to determine diffuser airflow selection to determine throw.
- Noise Criteria (NC) values are based upon 10dB room absorption, re 10⁻¹² watts. Dash (—) in space indicates a Noise Criteria of less than 10.
- Data derived from tests conducted in accordance with ANSI/ASHRAE Standard 70 – 2006.

Corrections to pressure drop and Noise Criteria level may be approximated by using correction factors as shown and applying them to the 4-way blow value listed in the performance tables.

Blow Pattern	% Increase in Air Volume for Throw Determination	TP Increase Correction Factor	NC Sound Level Add
3-way	35	x 1.5	+ 10
2-way	100	x 4.0	+ 15
1-way	400	x 8.0	+30

HOW TO ORDER OR TO SPECIFY

PLAQUE FACE DIFFUSERS – MODEL SERIES 6600

EXAMPLE: 6600 - O - 0909 - 24 x 24 - PL - AW - B4 - SR08 - -

- | | | |
|--|--|--|
| <p>1a. Model
6600</p> <p>1b. Damper
(model suffix)
– None
–O Steel Opposed Blade Damper</p> <p>2. Neck Size
0606 6" x 6" (152 x 152)
0909 9" x 9" (229 x 229)
1212 12" x 12" (305 x 305)
1515 15" x 15" (381 x 381)
1818 18" x 18" (457 x 457)</p> <p>3. Ceiling Module Size
(Type PL only)
Imperial (inches)
20 x 20, 24 x 24
Metric (mm)
500 x 500, 600 x 600</p> <p>4. Frame Type
S Surface Mount Flat
PL Panel Lay-in T-Bar</p> | <p>5. Finish
AW Appliance White (default)
AL Aluminum
BK Black
BW British White
MI Mill
PC Prime Coat Paint
SP Special Custom Color</p> <p>6. Blow Pattern
B4 4-way (default)
B3 3-way
B2 2-way opposite
C2 2-way corner
B1 1-way</p> <p>7. Transition Collar
(Square to round)
SR04 to SR18
4" to 18" diameter</p> <p>8. Earthquake Tabs
– None (default)
EQT Earthquake Tabs</p> | |
|--|--|--|

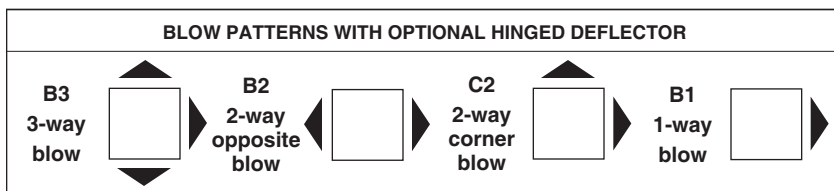
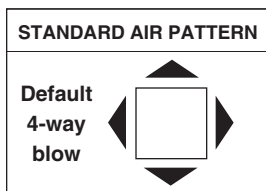
OTHER OPTIONS & ACCESSORIES:

11. **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

Notes:

1. Consult price pages as to limitations of module, frame type, neck size and accessories combinations.

D CEILING DIFFUSERS



SUGGESTED SPECIFICATION:

Furnish and install **Nailor Model 6600 Plaque Face Diffusers** of the sizes and capacities as shown on the plans and air distribution schedules. The diffuser shall be manufactured from corrosion-resistant steel and include a flat square face panel that can be positioned to provide an opening that is adjustable from 1/2" (13) to 1 1/4" (32). A high neck square duct connection collar shall be an integral part of the frame assembly. 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.

(Optional) The diffuser shall incorporate factory installed hinged air deflector(s) that will provide a 1-way, 2-way corner, 2-way opposite or 3-way throw pattern (specifier to select a pattern).

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

ARCHITECTURAL SLOT PLAQUE DIFFUSER

- PERIMETER SLOT
- PLAQUE CENTER
- ROUND NECK

Model:
66UNI Steel



Model 66UNI

Model Series 66UNI Plaque Diffuser with Perimeter Slots has been specially designed to provide an unobtrusive appearance required for architectural excellence. A plaque face that sits flush in the center of the diffuser is surrounded by a choice of 1, 2 or 3 perimeter slots. This diffuser is designed specifically to integrate with 2' x 2' (610 x 610) ceiling module suspension systems.

The 66UNI provides a tight horizontal air pattern from maximum to minimum airflow and is ideal for VAV applications. The diffuser is provided with a deep plenum backpan to provide optimum performance by minimizing pressure drop and noise.

STANDARD FEATURES:

- Clean lines with no unsightly visible screws.
- 24" x 24" (610 x 610) ceiling module size.
- Available with a choice of 1, 2, or 3 perimeter slots.
- Deep plenum backpan for premium performance.
- Spring loaded core. Removable without the use of tools.

- High neck collar for secure connection.

CONSTRUCTION MATERIAL:

Corrosion-resistant steel.

FINISH OPTIONS:

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

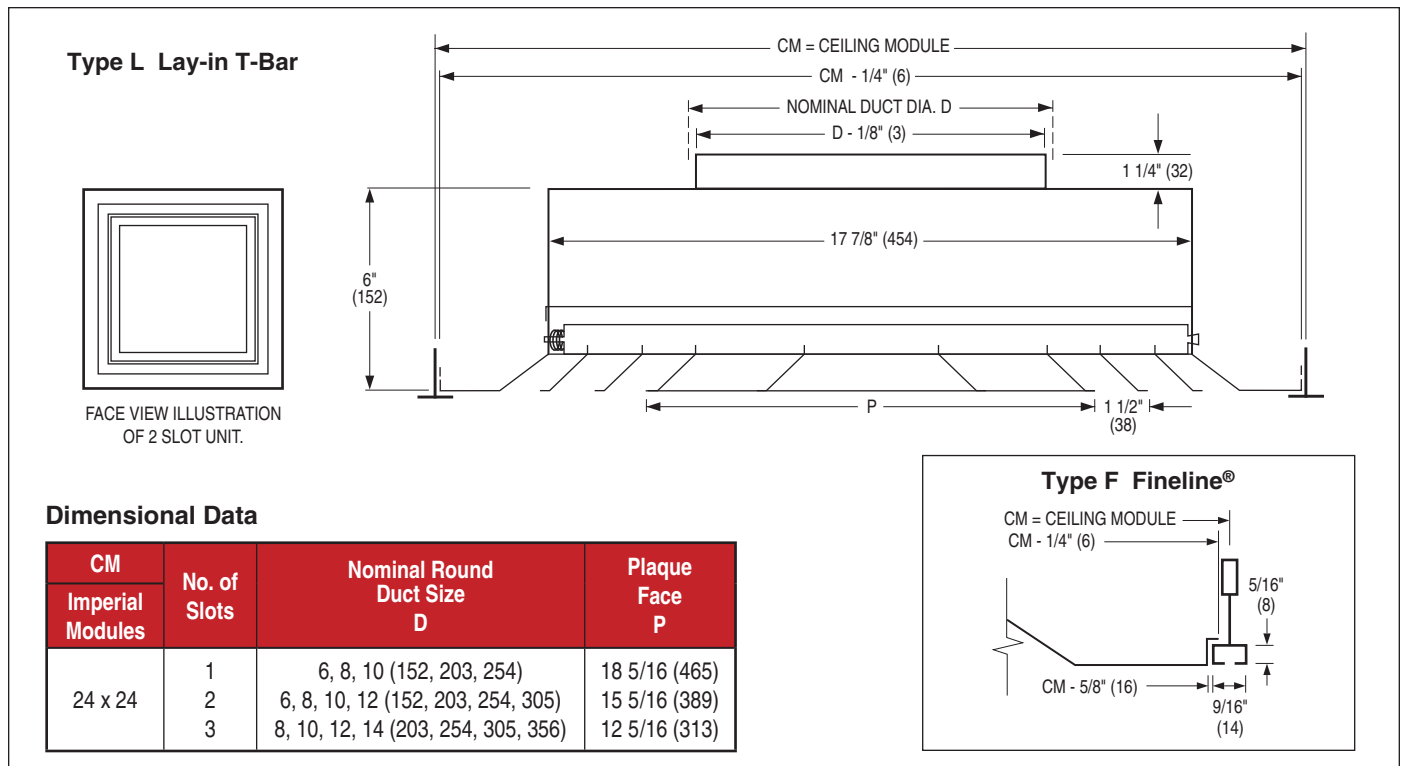
OPTIONS & ACCESSORIES:

- 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).
- EQT Earthquake Tabs

For additional options and accessories; see page D255.

D

CEILING DIFFUSERS



PERFORMANCE DATA:

MODEL 66UNI • 24 x 24 (610 x 610) CEILING MODULE • IMPERIAL UNITS

1 Slot

6" Dia. Neck	Airflow, CFM	80	100	120	140	160	175	195	235	275
	Neck Velocity, FPM	400	500	600	700	800	900	1000	1200	1400
	Total Pressure	.021	.033	.048	.066	.086	.108	.133	.192	.261
	Static Pressure	.011	.017	.026	.035	.046	.058	.071	.102	.139
	Throw, ft.	2-3-5	2-3-7	3-4-7	3-5-8	4-5-10	4-6-12	4-7-13	5-8-14	6-8-14
	Noise Criteria	—	—	17	21	25	28	31	35	40
8" Dia. Neck	Airflow, CFM	140	165	190	220	245	270	295	325	350
	Neck Velocity, FPM	400	475	550	625	700	775	850	925	1000
	Total Pressure	.026	.036	.048	.063	.079	.097	.117	.139	.162
	Static Pressure	.016	.022	.029	.039	.048	.060	.072	.086	.100
	Throw, ft.	3-5-8	4-5-10	4-6-12	5-6-13	5-7-13	5-8-14	6-9-14	6-10-15	7-11-15
	Noise Criteria	—	18	22	25	28	31	33	36	38
10" Dia. Neck	Airflow, CFM	110	150	190	230	275	315	355	395	455
	Neck Velocity, FPM	200	275	350	425	500	575	650	725	800
	Total Pressure	.008	.014	.023	.034	.047	.062	.080	.099	.121
	Static Pressure	.006	.009	.015	.023	.031	.041	.054	.066	.081
	Throw, ft.	2-4-6	3-5-9	4-5-12	5-7-13	5-8-14	6-10-14	7-11-15	8-12-16	9-13-17
	Noise Criteria	—	—	16	21	25	29	32	35	37

2 Slot

6" Dia. Neck	Airflow, CFM	60	95	130	165	195	230	265	300	335
	Neck Velocity, FPM	300	475	650	825	1000	1175	1350	1525	1700
	Total Pressure	.010	.024	.045	.072	.105	.146	.193	.246	.305
	Static Pressure	.004	.010	.019	.030	.043	.060	.079	.101	.125
	Throw, ft.	0-1-3	1-2-4	2-3-5	2-4-7	3-5-8	4-5-10	4-5-12	5-6-13	5-7-14
	Noise Criteria	—	—	—	17	22	26	30	33	36
8" Dia. Neck	Airflow, CFM	140	190	245	295	350	400	455	505	560
	Neck Velocity, FPM	400	550	700	850	1000	1150	1300	1450	1600
	Total Pressure	.021	.039	.063	.092	.128	.169	.217	.269	.328
	Static Pressure	.011	.020	.032	.047	.066	.087	.112	.138	.168
	Throw, ft.	2-3-6	3-5-8	4-5-11	5-6-13	5-7-15	5-9-16	6-10-18	7-11-19	8-12-20
	Noise Criteria	—	—	20	25	29	33	36	39	42
10" Dia. Neck	Airflow, CFM	220	275	325	380	435	490	545	600	655
	Neck Velocity, FPM	400	500	600	700	800	900	1000	1100	1200
	Total Pressure	.024	.037	.053	.073	.095	.121	.149	.180	.214
	Static Pressure	.014	.021	.031	.042	.055	.071	.087	.105	.124
	Throw, ft.	3-5-9	4-6-12	5-7-14	5-8-16	6-9-17	7-11-18	8-12-19	9-13-21	9-14-22
	Noise Criteria	—	16	21	25	29	32	35	37	40
12" Dia. Neck	Airflow, CFM	235	315	395	470	550	630	705	785	865
	Neck Velocity, FPM	300	400	500	600	700	800	900	1000	1100
	Total Pressure	.015	.027	.042	.061	.083	.107	.136	.168	.203
	Static Pressure	.009	.017	.026	.039	.052	.067	.086	.106	.128
	Throw, ft.	4-5-10	5-7-14	5-8-16	7-10-18	8-12-20	9-14-21	10-15-22	12-16-23	13-17-24
	Noise Criteria	—	15	21	26	30	33	36	39	42

Performance Notes:

- All pressures are in inches w.g..
- 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 10⁻¹² watts. Dash (—) in spaces indicates a Noise Criteria level of less than 15.

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

Balancing:

It is recommended that a commercially available 'Flow Hood' is used for field balancing. The airflow meter directly reads average flow rate with great accuracy at all volumes. It is a much faster and more accurate alternative to time consuming multiple velocity readings, eliminating the use of Ak factors and the calculations required to convert the average velocity into airflow.

PERFORMANCE DATA:

MODEL 66UNI • 24 x 24 (610 x 610) CEILING MODULE • IMPERIAL UNITS

3 Slot

8" Dia. Neck	Airflow, CFM	105	165	225	290	350	410	470	530	595
	Neck Velocity, FPM	300	475	650	825	1000	1175	1350	1525	1700
	Total Pressure	.010	.024	.045	.072	.106	.146	.192	.245	.304
	Static Pressure	.004	.010	.018	.030	.043	.060	.078	.100	.124
	Throw, ft.	2-3-4	3-4-6	3-6-9	4-8-11	5-9-13	6-11-16	7-13-18	8-14-20	9-16-23
	Noise Criteria	—	—	18	22	25	28	32	35	38
10" Dia. Neck	Airflow, CFM	165	230	300	370	435	505	575	640	710
	Neck Velocity, FPM	300	425	550	675	800	925	1050	1175	1300
	Total Pressure	.010	.021	.035	.052	.074	.099	.127	.159	.195
	Static Pressure	.005	.010	.016	.024	.034	.045	.058	.073	.090
	Throw, ft.	3-5-7	4-7-10	5-8-12	6-10-14	6-11-16	7-13-18	8-14-20	9-15-22	9-16-24
	Noise Criteria	—	—	18	24	27	30	33	36	39
12" Dia. Neck	Airflow, CFM	235	315	395	470	550	630	705	785	865
	Neck Velocity, FPM	300	400	500	600	700	800	900	1000	1100
	Total Pressure	.012	.021	.034	.048	.066	.086	.110	.136	.164
	Static Pressure	.006	.011	.018	.026	.036	.047	.059	.073	.089
	Throw, ft.	4-7-10	5-9-12	6-10-15	7-12-17	8-13-19	8-15-21	9-16-23	10-17-25	11-19-27
	Noise Criteria	—	16	20	25	28	30	33	35	37
14" Dia. Neck	Airflow, CFM	320	430	535	640	750	855	960	1070	1175
	Neck Velocity, FPM	300	400	500	600	700	800	900	1000	1100
	Total Pressure	.013	.023	.037	.053	.072	.094	.119	.148	.179
	Static Pressure	.007	.013	.021	.030	.041	.054	.069	.085	.104
	Throw, ft.	5-8-12	6-10-15	7-12-17	8-14-20	9-16-23	10-17-25	11-19-27	12-21-30	13-22-32
	Noise Criteria	—	—	20	28	31	33	36	39	41

Performance Notes:

1. All pressures are in inches w.g..
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 10⁻¹² 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.

Balancing:

It is recommended that a commercially available 'Flow Hood' is used for field balancing. The airflow meter directly reads average flow rate with great accuracy at all volumes. It is a much faster and more accurate alternative to time consuming multiple velocity readings, eliminating the use of Ak factors and the calculations required to convert the average velocity into airflow.

HOW TO ORDER OR TO SPECIFY

ARCHITECTURAL SLOT PLAQUE DIFFUSERS – MODEL SERIES 66UNI

EXAMPLE: 66UNI - 10 - 2 - 24 x 24 - L - AW - —

- | | | |
|--|---|---|
| <ol style="list-style-type: none"> 1. Model
66UNI 2. Neck Size
06 6" (152)
08 8" (203)
10 10" (254)
12 12" (305)
14 14" (356) 3. No. of Slots
1 1 Slot
2 2 Slot
3 3 Slot 4. Ceiling Module Size
Imperial (inches)
24 x 24 5. Frame Type
L Lay-in T-Bar
F Fineline® 6. Finish
AW Appliance White (default)
AL Aluminum
BK Black
BW British White
MI Mill
PC Prime Coat Paint
SP Special Custom Color | <p>OPTIONS & ACCESSORIES:</p> <ol style="list-style-type: none"> 7. Damper
– None
4250 Radial Sliding Blade
6" – 14" (152 – 356).
4275 Radial Opposed Blade
5" – 24" (127 – 610).
4675 Butterfly
6" – 14" (152 – 356). 8. Earthquake Tabs
– None (default)
EQT Earthquake Tabs | <p>OTHER OPTIONS & ACCESSORIES:</p> <p>– None</p> <ol style="list-style-type: none"> 9. Air Balancing Devices
(order separately)
Round Neck:
EGR Equalizing Grid
DEGR Damper/Equalizing Grid <p>Notes:</p> <ol style="list-style-type: none"> 1. Consult text for availability of neck sizes with "No. of Slots" selection. |
|--|---|---|

D
CEILING DIFFUSERS

SUGGESTED SPECIFICATION:

Furnish and install **Nailor Model 66UNI Slot Plaque Diffusers** of the sizes and capacities as shown on the plans and air distribution schedules. The diffuser shall be manufactured from corrosion-resistant steel and include a deep plenum backpan that has a round duct connection collar. The diffuser is to be sized to suit a 24" x 24" (610 x 610) ceiling suspension system. The center of the diffuser shall have a smooth flat plaque face in which 1, 2, or 3 (select one) perimeter slot(s) surround it. The core shall be spring loaded and removable without the use of tools. The finish shall be AW Appliance White (optional finishes are available).

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

PRODUCT OVERVIEW OPTIONS AND ACCESSORIES FOR CEILING DIFFUSERS

MOUNTING FRAMES

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

OPTIONS

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

FINISHES

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

AIR BALANCING DEVICES

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

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

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

Nailor balancing devices are:

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

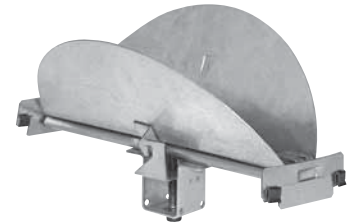
Model DFA
Drywall/Plaster Frame
Surface Mount
Ceiling Adapter



Model 4275
Radial Opposed
Blade Damper



Model 4250
Radial Sliding Blade Damper



Model 4675
Butterfly Damper



Model OBD
Opposed Blade Damper
Steel, Neck Mount



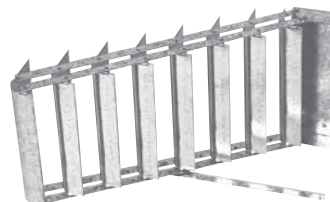
Model OBDD
Opposed Blade Damper
Steel, Duct Mount



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.

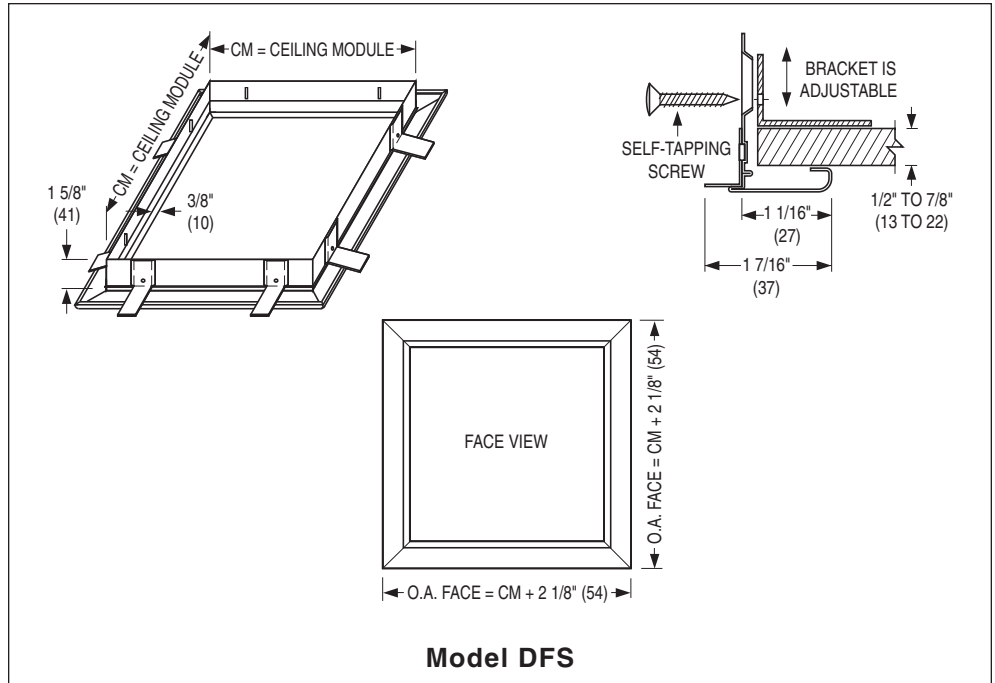
A major benefit is that the DF Series allows access to the ceiling plenum space above for maintenance purposes without the need for separate access doors. The finished appearance is professional and aesthetically pleasing.

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

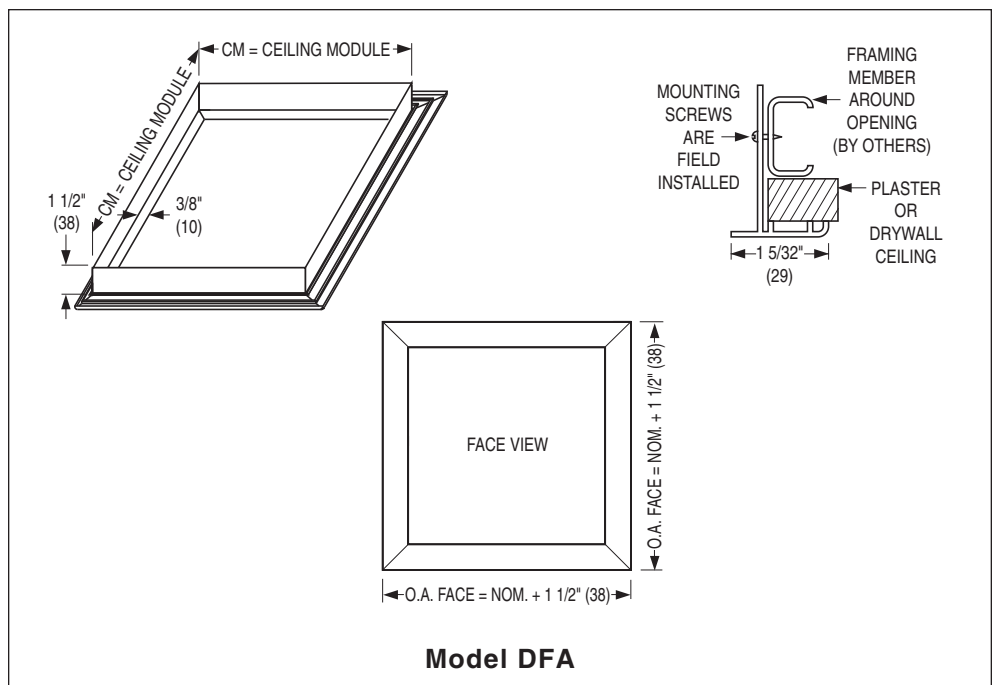
Ceiling opening = CM + 1/4" (6)



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

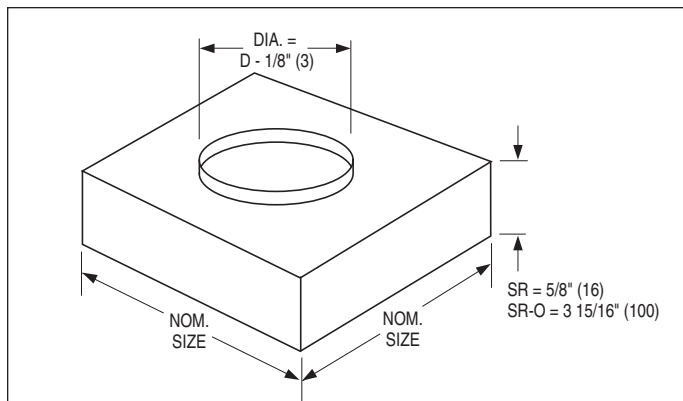
An optional safety chain is available on all of Nailor's round ceiling diffusers.

GK Foam Gaskets

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

SR Square to Round Transition Collar

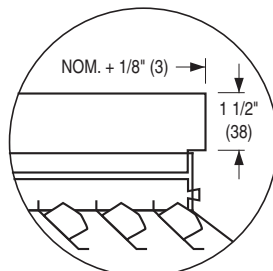
Transition collars are for use on Nailor square neck diffusers where a round duct connection is required. Round necks are sized for flexible or hard duct connection. SR's are shipped loose for field installation and are supplied with barbed S clips.



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

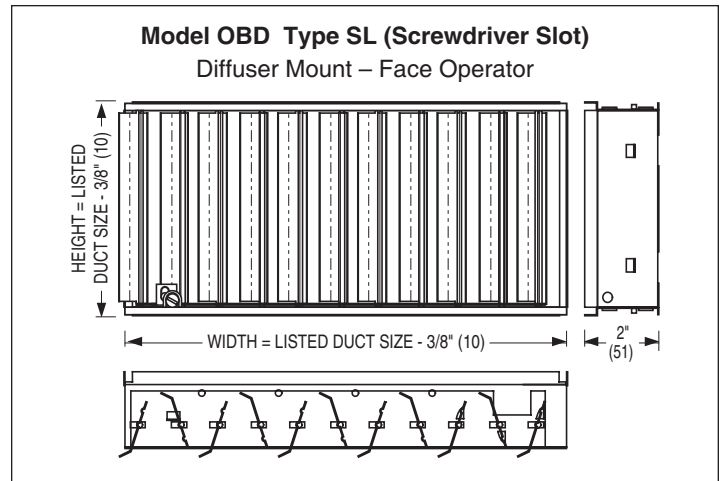
This style of damper mounts directly on the neck and are sized to suit most **Nailor** diffusers. Uses steel barbed S-clips for easy field mounting or removal when ordered separately. Supplied as standard with a screwdriver slot operator (Type SL).

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.

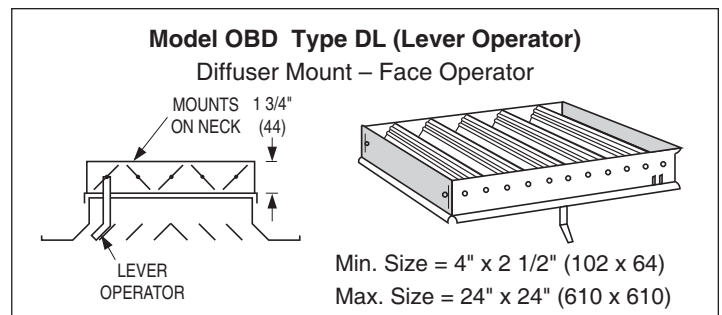
Type SL Operator

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.



CEILING DIFFUSERS

Air Balancing Devices

DUCT MOUNT MODELS:

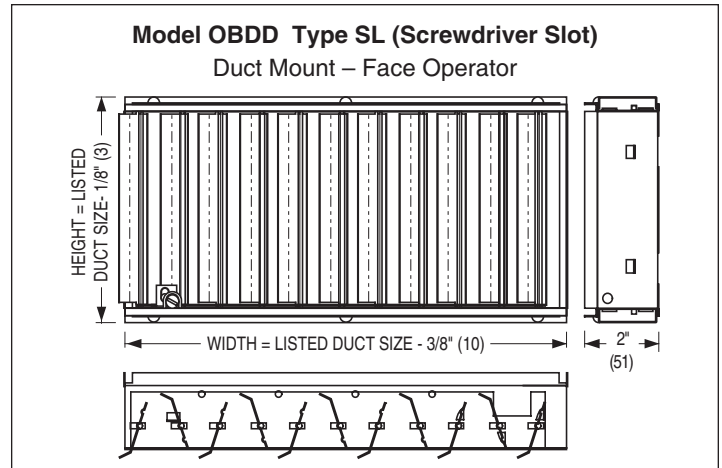
OBDD Steel

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).

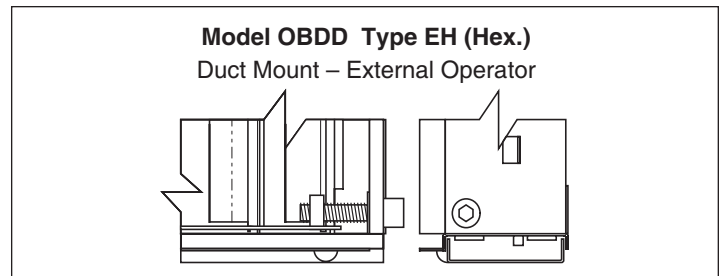
Type SL Operator

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



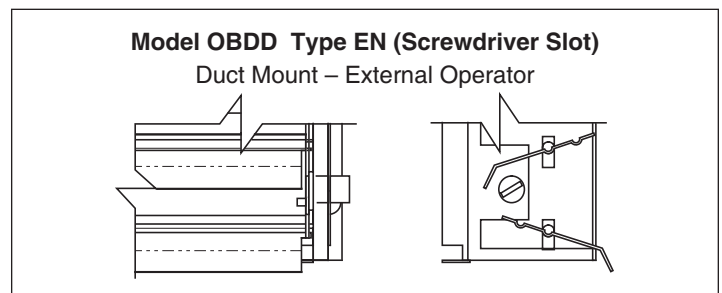
Type EH Operator

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.



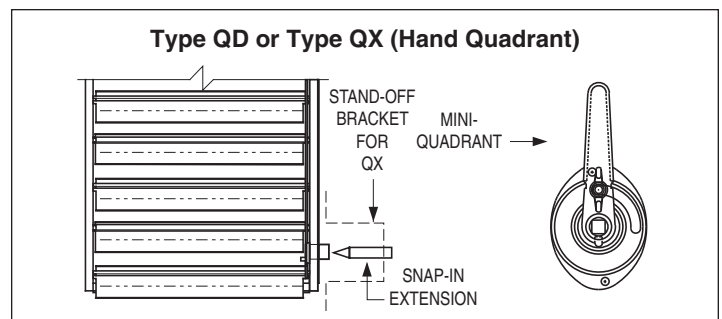
Type QD Operator *

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

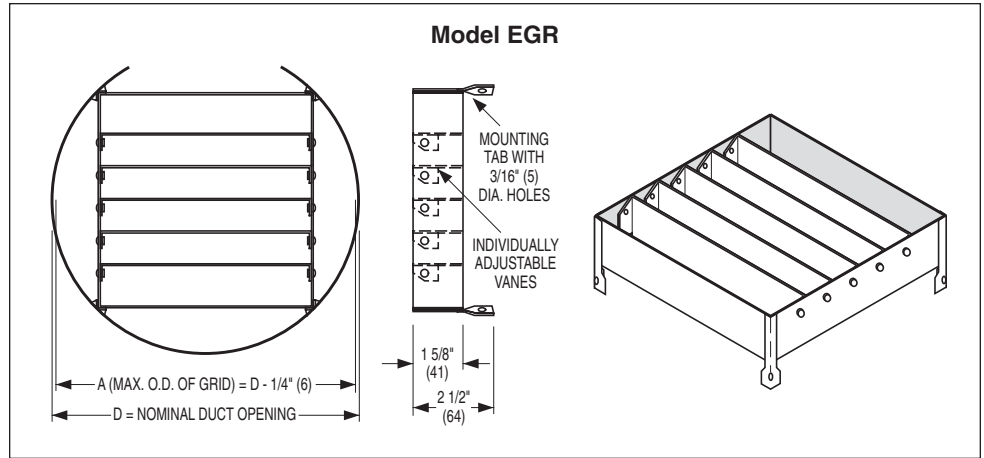


Air Balancing and Directional Control Devices

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.

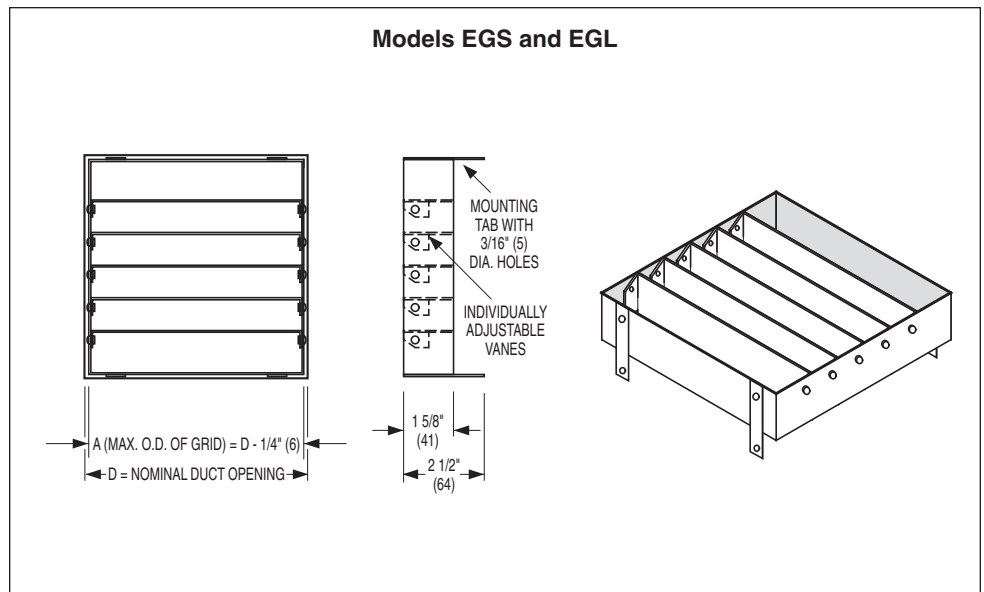


Equalizing Grid for Square and Rectangular Necks

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.



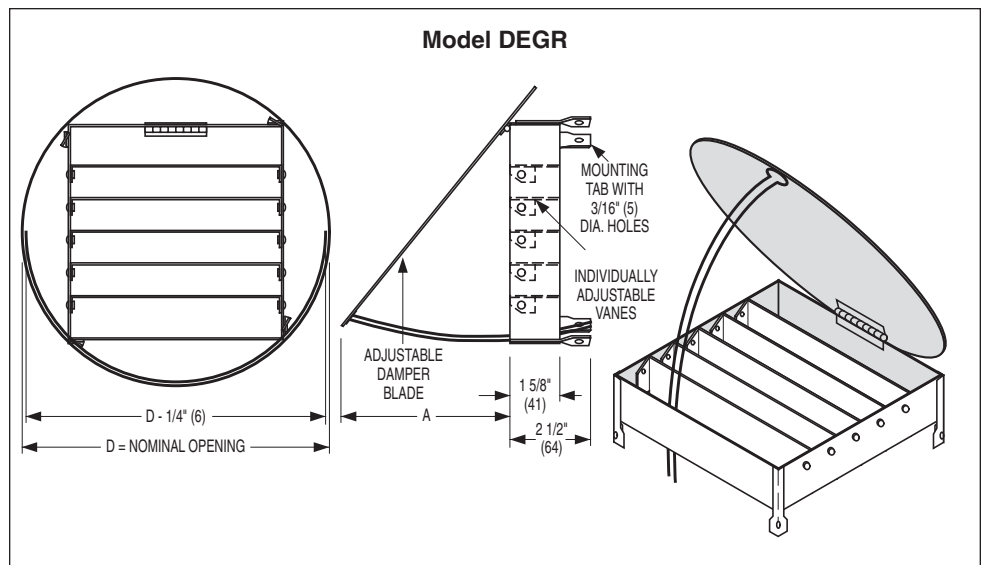
Damper with Equalizing Grid for Round Necks

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

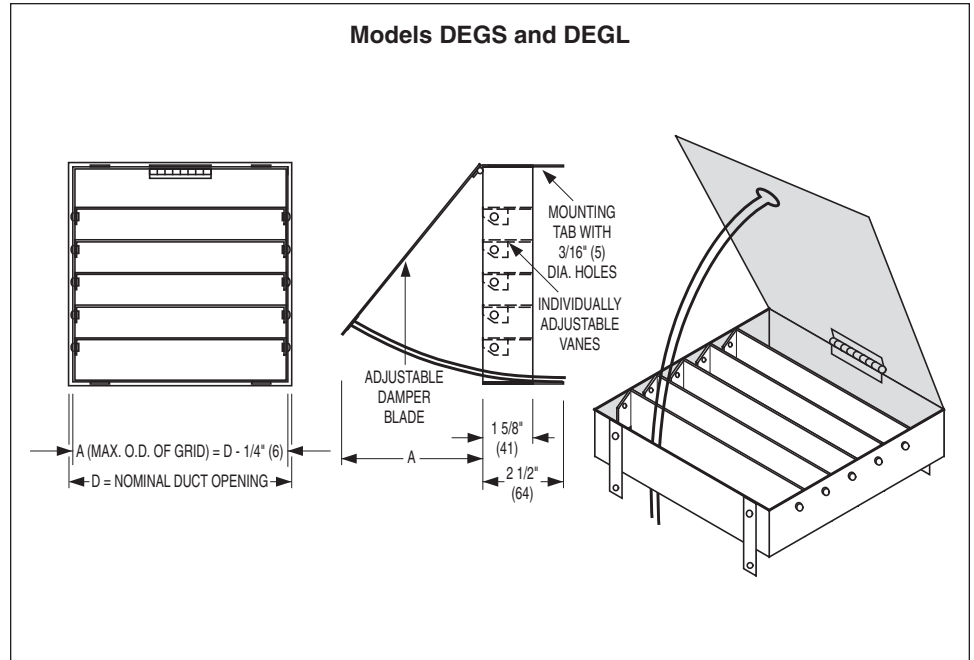
Damper with Equalizing Grid for Square and Rectangular Necks

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