



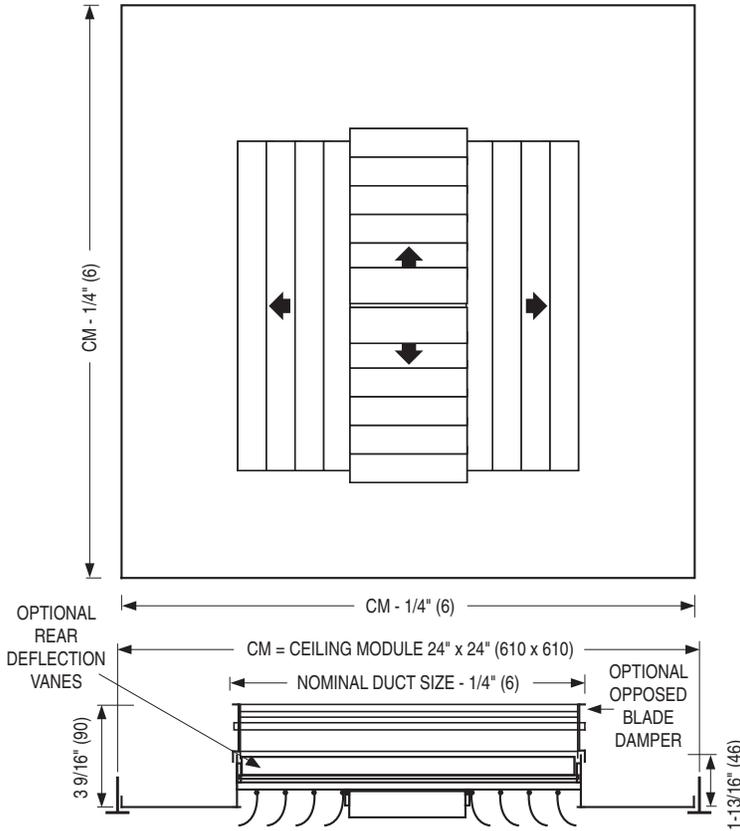
# ALUMINUM CURVED BLADE CEILING DIFFUSERS

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

### MODELS: 51CC(-O) AND 51CCD(-O)

### TYPE PL, TL, F, M AND SP

#### TYPE PL PANEL LAY-IN T-BAR



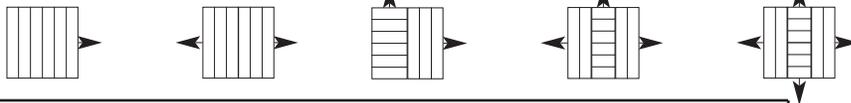
- MODEL 51CC** Curved blade diffuser.
- MODEL 51CC-O** Curved blade diffuser with opposed blade damper.
- MODEL 51CCD** Curved blade diffuser with rear directional vanes.
- MODEL 51CCD-O** Curved blade diffuser with rear directional vanes and opposed blade damper.

#### DESCRIPTION:

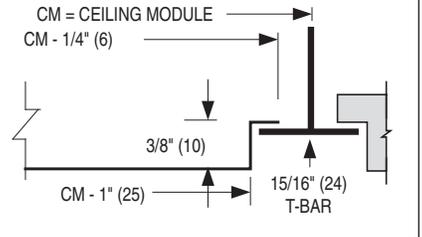
- Construction: Extruded aluminum blades. Steel panel. Curved vanes on 1" (25) centers. Rear directional vanes on 51CCD models (1 and 2-way pattern only) are "teardrop" on 3/4" (19) centers. Roll-formed steel opposed blade damper has screwdriver slot operator.
- Available in square duct sizes 6" x 6" (152 x 152) through 21" x 21" (533 x 533). Standard imperial ceiling module is 24" x 24" (610 x 610). Metric 600 x 600 mm module available.
- Curved blades are individually adjustable and regulate angle of discharge. Excellent for VAV systems.
- Standard finish is AW Appliance White.

#### DISCHARGE PATTERN SELECTION:

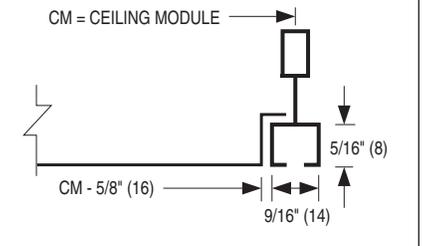
- 1A 1-way    2A 2-way opp.    2C 2-way corner    3A 3-way    4A 4-way



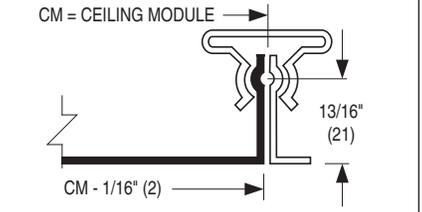
#### TYPE TL TEGULAR LAY-IN



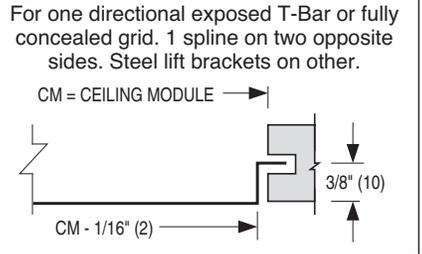
#### TYPE F FINELINE®



#### TYPE M METAL PAN (SNAP-IN)



#### TYPE SP SPLINE



#### OPTIONS:

- Finish:
  - AL Aluminum
  - SP Special \_\_\_\_\_

Dimensions are in inches (mm).

<b>SCHEDULE TYPE:</b>				
<b>PROJECT:</b>				
<b>ENGINEER:</b>				
<b>CONTRACTOR:</b>				
<b>DATE</b>	<b>B SERIES</b>	<b>SUPERSEDES</b>	<b>DRAWING NO.</b>	
3 - 17 - 16	51CC	5 - 9 - 01	51CC-1	



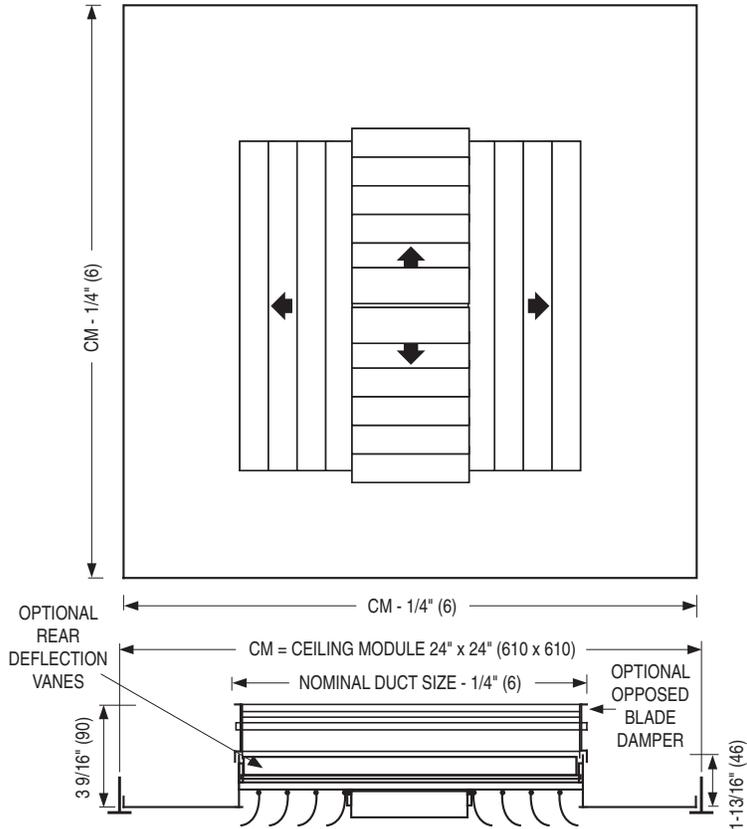
# STEEL CURVED BLADE CEILING DIFFUSERS

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

### MODELS: 61CC(-O) AND 61CCD(-O)

### TYPE PL, TL, F, M AND SP

#### TYPE PL PANEL LAY-IN T-BAR



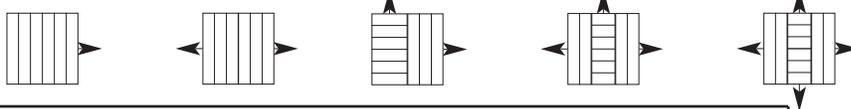
- MODEL 61CC** Curved blade diffuser.
- MODEL 61CC-O** Curved blade diffuser with opposed blade damper.
- MODEL 61CCD** Curved blade diffuser with rear directional vanes.
- MODEL 61CCD-O** Curved blade diffuser with rear directional vanes and opposed blade damper.

#### DESCRIPTION:

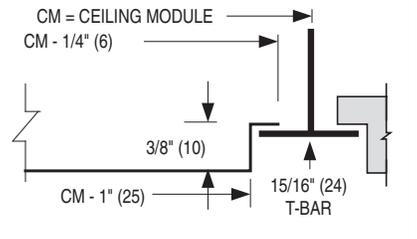
- Construction: Steel blades. Steel panel. Curved vanes on 1" (25) centers. Rear directional vanes on 51CCD models (1 and 2-way pattern only) are "teardrop" on 3/4" (19) centers. Roll-formed steel opposed blade damper has screwdriver slot operator.
- Available in square duct sizes 6" x 6" (152 x 152) through 21" x 21" (533 x 533). Standard imperial ceiling module is 24" x 24" (610 x 610). Metric 600 x 600 mm module available.
- Curved blades are individually adjustable and regulate angle of discharge. Excellent for VAV systems.
- Standard finish is AW Appliance White.

#### DISCHARGE PATTERN SELECTION:

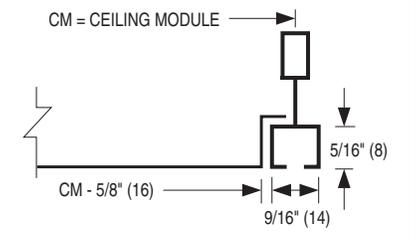
- 1A 1-way
- 2A 2-way opp.
- 2C 2-way corner
- 3A 3-way
- 4A 4-way



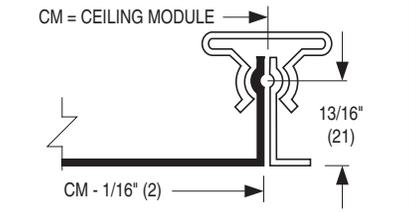
#### TYPE TL TEGULAR LAY-IN



#### TYPE F FINELINE®

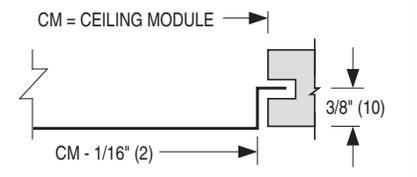


#### TYPE M METAL PAN (SNAP-IN)



#### TYPE SP SPLINE

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



#### OPTIONS:

- Finish:
  - AL Aluminum
  - SP Special \_\_\_\_\_

Dimensions are in inches (mm).

<b>SCHEDULE TYPE:</b>			
<b>PROJECT:</b>			
<b>ENGINEER:</b>			
<b>CONTRACTOR:</b>			
<b>DATE</b>	<b>B SERIES</b>	<b>SUPERSEDES</b>	<b>DRAWING NO.</b>
3 - 17 - 16	61CC	5 - 9 - 01	61CC-1



# SQUARE TO ROUND TRANSITION COLLARS

## STEEL • DIFFUSER ACCESSORY

### MODELS: SR, SR-O

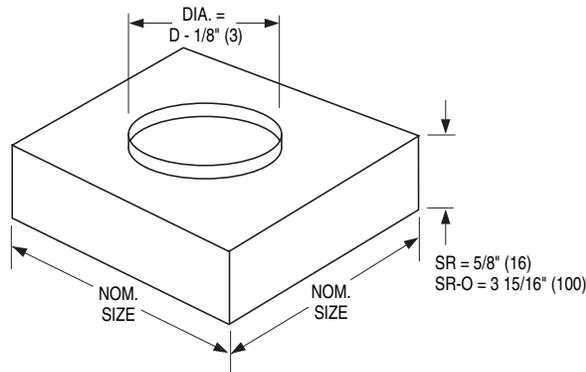
#### DESCRIPTION:

Transition collars are for use with any Nailor square neck diffuser where a round duct connection is desired. Round necks are sized for flexible or hard duct connection. SR's ship loose for field installation and are supplied with barbed S-clips.

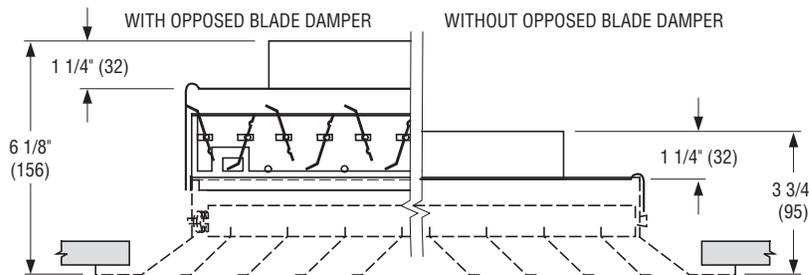
- Model SR  
For direct attachment to diffuser neck. Round dampers may be added to neck.
- Model SR-O  
For use over a square neck opposed blade damper.

#### CONSTRUCTION:

22 ga. corrosion-resistant steel.



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, 22, 24



Example illustrated is Model 6500 Pattern Diffuser.

<b>SCHEDULE TYPE:</b>		Dimensions are in inches (mm).			
<b>PROJECT:</b>					
<b>ENGINEER:</b>	<b>DATE</b>	<b>B SERIES</b>	<b>SUPERSEDES</b>	<b>DRAWING NO.</b>	
<b>CONTRACTOR:</b>	3 - 4 - 16	ACC	10 - 27 - 05	ACC-SR	

Nailor offers a selection of standard colors and finishes available on our grilles, registers and diffusers. For painted finishes, our state-of-the-art paint systems provide environmentally friendly finishing solutions with uniform coverage and coating thickness. The result is an exceptionally durable finish that resists scratching, corrosion and general wear. Additional facilities for special requirements, as well as a selection of anodized or brushed finishes, complete our ability to provide unmatched beauty and durability for any application.

**NAILOR POWDER COAT PROPERTIES**

FILM THICKNESS	2.0 to 3.0 mils
HARDNESS	2 H
IMPACT RESISTANCE	Direct: 160 inch - lbs. Reverse 160 inch - lbs.
SALT SPRAY	1000 hours

**ELECTROCOATING PROPERTIES**

FILM THICKNESS	.8 to 1.2 mils
HARDNESS	HB TO H
IMPACT RESISTANCE	80 inch - lbs
SALT SPRAY	100 hours


**POWDER COAT**

Nailor's powder coat is a high-tech thermosetting polyester powder coating with superior physical properties that provide excellent color and gloss retention. The finish offers extreme durability and hardness that resists scratching, chipping and general wear. Surface preparation includes degreasing and a chemical cleaning followed by a clean rinse before a final powder coat finish is applied and baked. The environmentally friendly Nailor powder coat system assures uniform coverage and color consistency resulting in a long lasting superior finish. Colors, including simulated anodizing, which is far more economical than color anodizing, can be selected from Nailor's standard color chart or non-standard colors and can be matched from sample chips provided to Nailor.

**ELECTROCOATING**

E-Coat is an environmentally friendly coating that provides complete coverage and a wide range of performance properties, formulated to meet corrosion, durability and other performance specifications. Electrocoating is a highly automated process in which paint is electrically deposited onto a metal foundation. Film build thickness is uniform and overall application efficiencies are in excess of 90%. Paint is consistent on all part-to-part surfaces, preventing sags, runs or drips. E-Coat offers flexibility, better first yield pass and quicker production times compared to other forms of paint applications. Electrocoating is an excellent solution that offers superior properties and uniform finish.

**CLEAR ANODIZING** (Aluminum products only)

Clear anodizing is a clear oxide coating that exemplifies an aluminum surface's natural oxide coating producing a hard, scratch resistant surface that is resistant to general wear and mild chemicals. The process provides a natural looking, virtually maintenance free finish that will endure for many years.

**COLOR ANODIZING** (Aluminum products only)

Color anodizing is an electrolytic process where, after standard anodizing procedures, colored metallic pigments penetrate the oxide surface pores producing a corrosion resistant, colorfast finish. The process results in a natural metallic appearance that requires little maintenance.

**BRUSHED AND CLEAR COAT**

Available on specific aluminum products (consult applicable product page for availability). Surface is brushed to achieve a scratch finish texture before being degreased and chemically cleaned. A clear lacquer coating is then applied to provide a durable protective finish.

**#4 BRUSHED SATIN POLISHED** (Stainless Steel products only)

Surface is polished to ASTM A480 #4 standard to achieve a bright durable finish that is resistant to mild chemicals and corrosion. A final coating is not required due to the inherent anti-corrosion properties of the stainless steel.

**PRIME COAT**

Prime coat provides a stable base for painting in the field. Surface pretreatment includes degreasing and a chemical cleaning before an alkyd prime coat is applied. After a thorough cleaning for dust, etc. that can contaminate the final finish and cause premature flaking or peeling, finish coat should be field applied as soon as possible.

**PAINT PREPARED ALUMINUM** (Aluminum products only)

Allows for field applied paint. Surface preparation includes degreasing and a chemical cleaning followed by a clean rinse. Finish coat should be field applied as soon as possible.

**MILL FINISH**

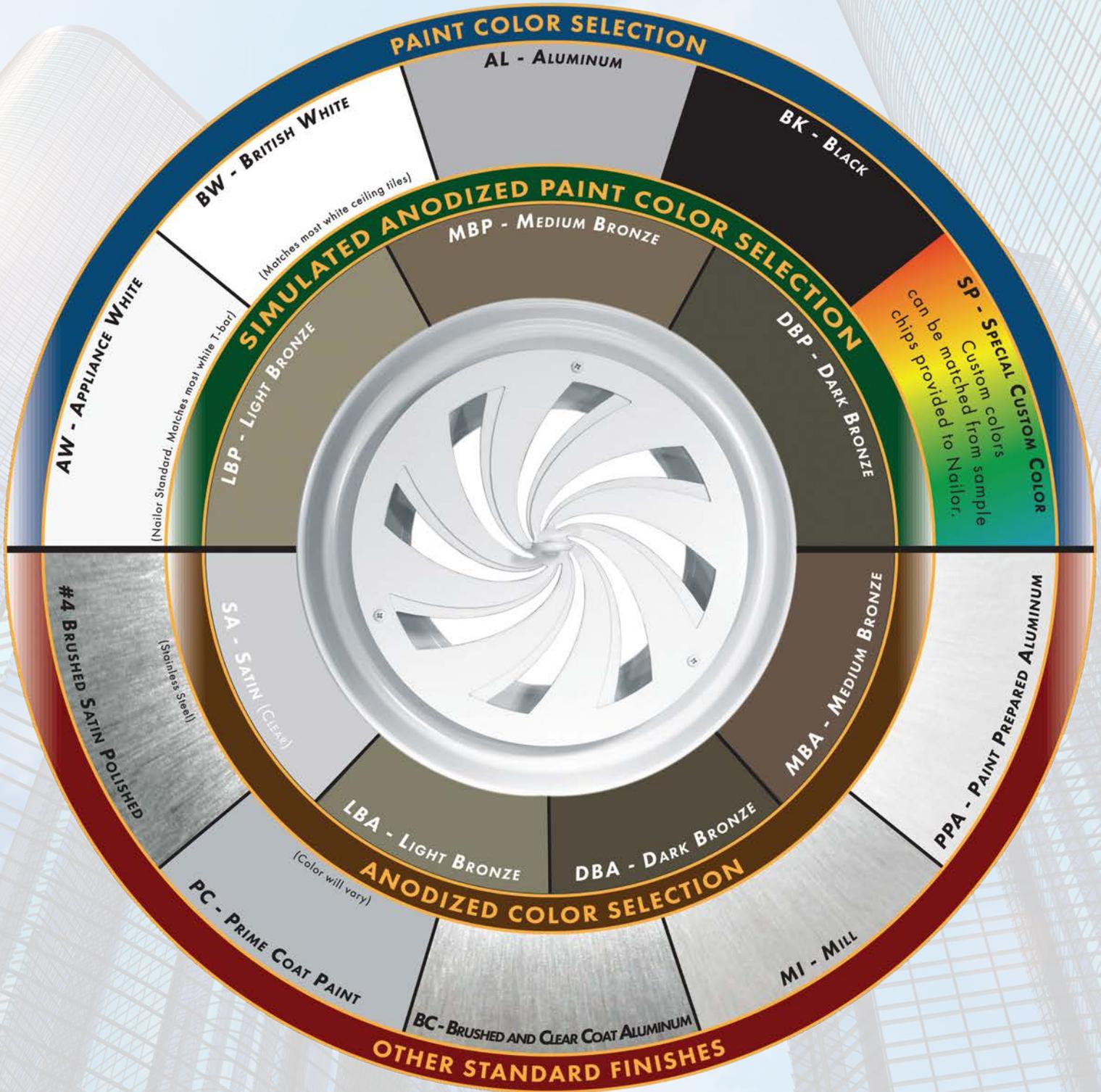
Surface is left untreated and requires cleaning, degreasing, etc. in the field before final finish can be applied if required.



**Nailor**<sup>®</sup>  
Industries Inc.

## STANDARD AND OPTIONAL FINISHES FOR GRILLES AND DIFFUSERS

The following standard colors and finishes are available on applicable Nailor air distribution products. Consult individual product pages for availability



The pictured finishes have been represented as best as possible within printing limitations. However, actual finish may vary. Contact your Nailor representative for a color chip sample on the material specified for a more accurate representation.

**DBK** - Black (for registers ordered with factory mounted dampers) - **BA** - Perforated Diffusers (4300 series only) Appliance White (AW) face with black back pan and pattern controllers.

"Complete Air Control and Distribution Solutions."

WGDSOF2015

[www.nailor.com](http://www.nailor.com)

## 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 ( $\Delta T$ ) 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<sup>-12</sup> watts.
- Data derived from tests conducted in accordance with ANSI/ASHRAE Standard 70 – 2023.