



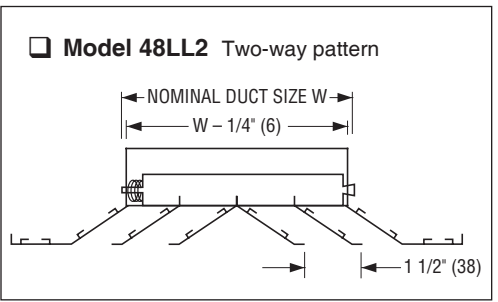
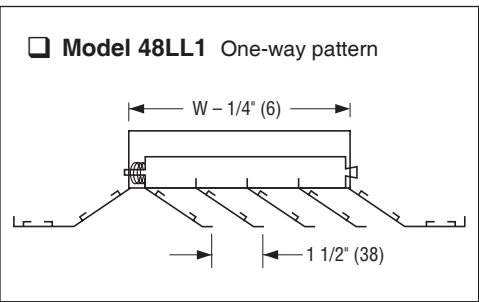
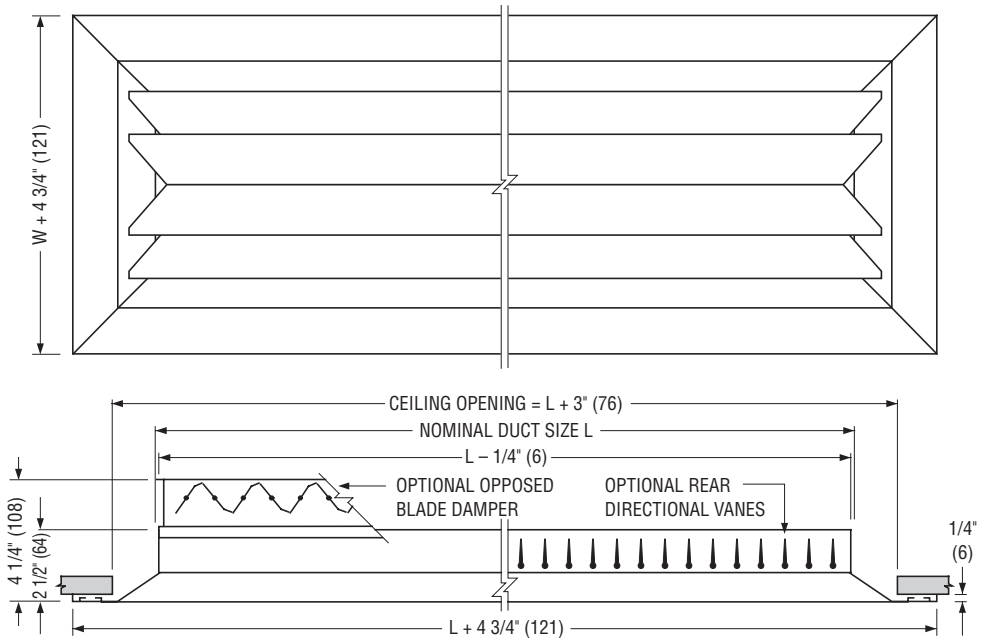
LINEAR LOUVER DIFFUSERS
 EXTRUDED ALUMINUM • ARCHITECTURAL
 HIGH CAPACITY
 MODELS: 48LL1, 48LL1-O, 48LL2 AND 48LL2-O

DESCRIPTION:

1. Material: Extruded aluminum construction with precision mitered corners.
2. Nailor 48LL Series Linear Louver (vane) Diffusers feature architectural linear styling for high capacity supply and return air applications in hard ceilings or sidewalls. They are designed for duct mounted installation. The spring loaded core is removable without the need of tools for ease of installation and access to the optional damper. Installation is with concealed screws through the neck of the outer frame, providing an aesthetically clean visual appearance (Type N).

Available with optional DV Rear Directional Vanes on 3/4" (19) centers that are individually adjustable and provide spread and air pattern control.

3. Designed for use in discreet lengths, the fixed louvers provide a tight horizontal discharge pattern over a wide range of airflow rates and are an excellent choice for VAV systems.
4. Standard lengths are 24", 36", 48", 60" and 72" (600, 900, 1200, 1500 and 1800), supplied in a single section. Lengths over 72" (1800) are supplied in equal sections with alignment strips, up to a 144" (3600) maximum.
5. Standard finish is AW Appliance white.



Available Widths

Nominal Duct Width W	inches	3	4 1/2	6	7 1/2	9	10 1/2	12
	mm	76	114	152	191	229	267	305

Available Widths

Nominal Duct Width W	inches	3	6	9	12
	mm	76	152	229	305

OPTIONS:

- Steel opposed blade damper (factory mounted) – Model 48LL1-O or 48LL2-O.
 - Aluminum opposed blade damper (factory mounted) – Model 48LL1-OA or 48LL2-OA.
 - DV Directional vanes.
 - Type A screw fastening (face).
- Finish:
- AL Aluminum.
 - SP Special _____ .

SCHEDULE TYPE:		Dimensions are in inches (mm).			
PROJECT:					
ENGINEER:	DATE	B SERIES	SUPERSEDES	DRAWING NO.	
CONTRACTOR:	2-22-19	4800	10-15-03R	48LL	

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

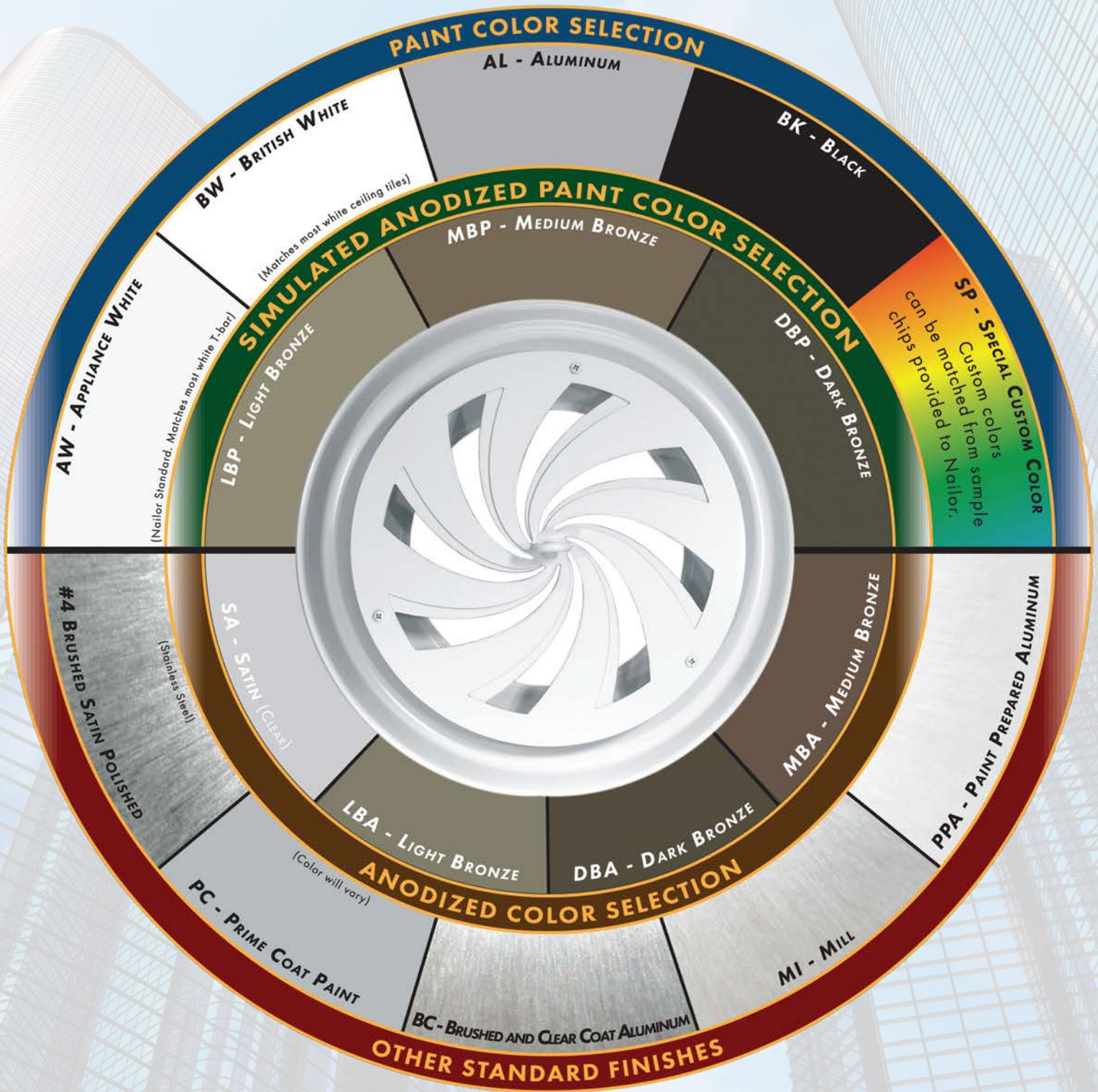
Surface is left untreated and requires cleaning, degreasing, etc. in the field before final finish can be applied if required.



Nailor[®]
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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

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PERFORMANCE DATA:

LINEAR LOUVER DIFFUSERS

Model: 48LL1 • One-Way Pattern

Nominal Duct Width Size	Neck Velocity, FPM	300	400	500	600	700	800	900
	Velocity Pressure	.006	.010	.016	.022	.031	.040	.050
Total Pressure	.037	.064	.101	.145	.197	.258	.326	
3"	Airflow, CFM/FT.	75	100	125	150	175	200	225
	Noise Criteria	–	–	20	24	28	32	35
	Throw	14-17-24	16-20-28	16-22-31	20-24-34	21-26-38	20-28-39	24-30-42
4 1/2"	Airflow, CFM/FT.	113	150	188	225	263	300	338
	Noise Criteria	–	16	22	26	30	34	37
	Throw	18-22-32	21-26-37	23-29-41	28-32-44	28-34-48	30-37-51	32-39-55
6"	Airflow, CFM/FT.	150	200	250	300	350	400	450
	Noise Criteria	–	17	23	27	31	35	38
	Throw	21-25-36	24-29-31	27-33-46	29-36-51	32-39-55	34-41-59	36-44-63
7 1/2"	Airflow, CFM/FT.	187	150	312	375	437	500	563
	Noise Criteria	–	17	23	27	31	35	38
	Throw	3-29-41	27-33-47	29-37-52	33-41-56	36-43-61	38-47-65	41-49-70
9"	Airflow, CFM/FT.	225	300	375	450	525	600	675
	Noise Criteria	–	18	24	28	32	36	39
	Throw	25-31-44	30-36-52	33-40-58	35-45-63	39-48-67	42-52-73	45-56-77
10 1/2"	Airflow, CFM/FT.	263	350	438	525	613	700	788
	Noise Criteria	–	18	25	28	33	37	40
	Throw	27-34-48	32-39-60	34-43-61	39-48-66	42-50-72	48-55-76	48-58-82
12"	Airflow, CFM/FT.	300	400	500	600	700	800	900
	Noise Criteria	–	19	25	29	33	37	40
	Throw	29-36-51	34-42-59	37-46-65	42-51-71	45-54-77	48-59-82	51-62-88

Model 48LL2 • Two-Way Pattern

Nominal Duct Width Size	Neck Velocity, FPM	300	400	500	600	700	800	900
	Velocity Pressure	.006	.010	.016	.022	.031	.040	.050
Total Pressure	.037	.064	.101	.145	.197	.258	.326	
3"	Airflow, CFM/FT.	75	100	125	150	175	200	225
	Noise Criteria	–	–	18	23	27	30	34
	Throw	8-12-22	11-16-25	13-20-28	16-22-30	19-23-33	20-25-35	21-26-37
6"	Airflow, CFM/FT.	150	200	250	300	350	400	450
	Noise Criteria	–	16	21	26	30	33	37
	Throw	11-17-30	16-23-34	19-27-39	23-30-42	27-33-45	28-34-49	30-36-52
9"	Airflow, CFM/FT.	225	300	375	450	525	600	675
	Noise Criteria	–	18	24	28	32	36	39
	Throw	25-31-44	30-36-52	33-40-58	35-45-63	39-48-67	42-52-73	45-56-77
12"	Airflow, CFM/FT.	300	400	500	600	700	800	900
	Noise Criteria	–	19	25	29	33	37	40
	Throw	16-24-42	21-32-48	26-38-54	32-42-59	37-45-64	39-48-68	41-51-72

Throw Correction Factors for Various Lengths

Length (ft.)	2	3	4	5	6	8	10	12
Multiplier	.70	.86	1.0	1.1	1.25	1.4	1.55	1.7

Noise Criteria Correction Factors for Various Lengths

Length (ft.)	2	3	4	5	6	8	10
Supply	-3	-1	0	+1	+2	+3	+5

Performance Notes:

- Horizontal throws are given at 150, 100 and 50 fpm terminal velocities under isothermal conditions.
- Throw values are based on a 4 ft. section. For other lengths, use the correction factor table above.
- Total Pressure is in inches w.g..
- Noise Criteria [NC] values are based on a 4 ft. section and a room absorption of 10 dB, re 10⁻¹² watts. For other lengths, use the correction factor table shown.
- Return Air Applications:
Noise Criteria value is increased by + 4.
Negative Static Pressure = 0.8 x Total Pressure.
- Dash (–) in space indicates an Noise Criteria level of less than 15.
- Data derived from tests conducted in accordance with ANSI/ASHRAE Standard 70–2006.

B

LINEAR DIFFUSERS AND BAR GRILLES