

## LINEAR LOUVER DIFFUSERS

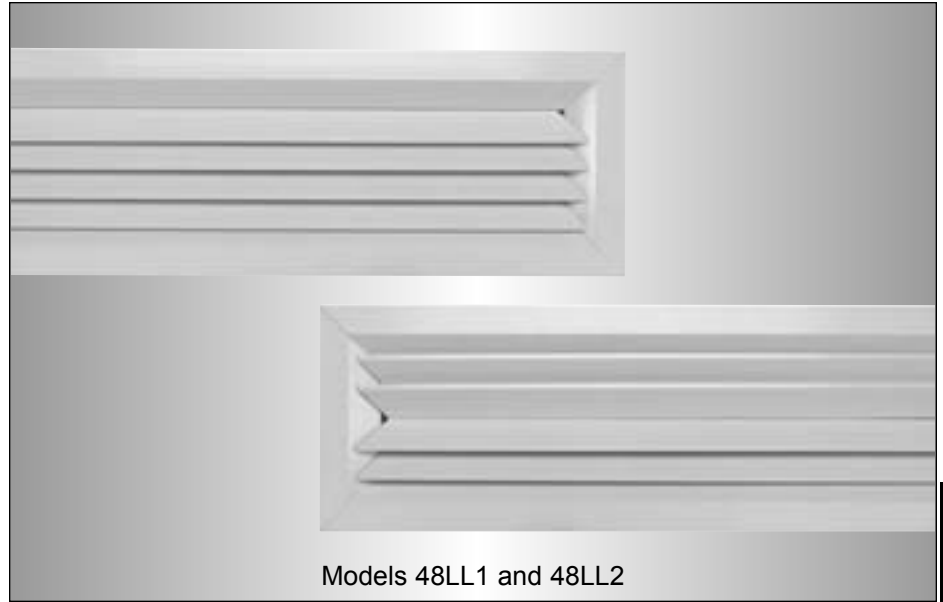
- EXTRUDED ALUMINUM
- ARCHITECTURAL
- HIGH CAPACITY
- SQUARE OR RECTANGULAR NECKS

### Models:

**48LL1 One-way Pattern**

**48LL2 Two-way Pattern**

- Suffix '-O' adds a steel OBD
- Suffix '-OA' adds an aluminum OBD



Models 48LL1 and 48LL2

**B**

The **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. Standard finish is a high quality, baked enamel for long life and easy cleaning. Designed for use in discrete 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.

### FEATURES:

- Spring loaded core. Removable without the use of tools.
- Secure core attachment.
- Installation is with concealed screws through the neck of the outer frame, providing an aesthetically clean visual appearance (Type N).

### Options:

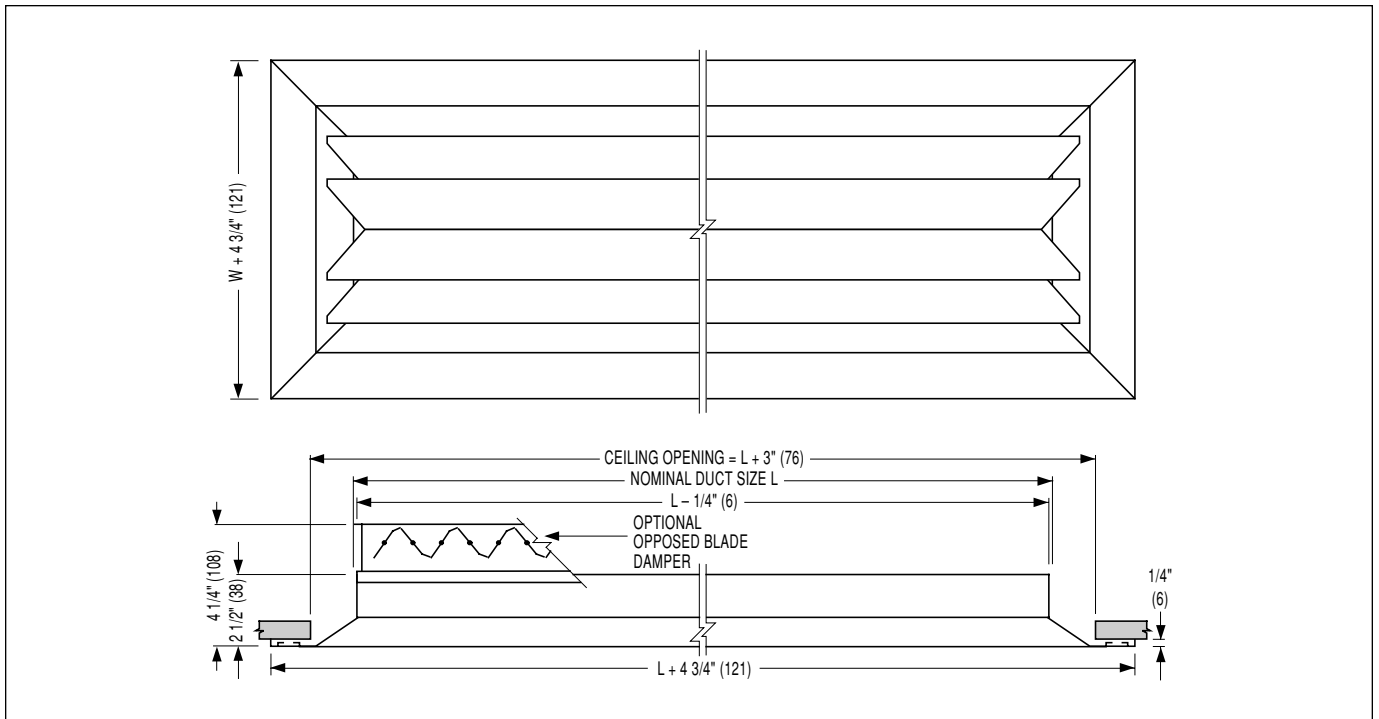
- Steel opposed blade damper (factory mounted) – Model 48LL1-O or 48LL2-O.
- Aluminum opposed blade damper (factory mounted) – Model 48LL1-OA or 48LL2-OA.
- DV Directional vanes.

- Type A screw fastening (face).

**Material:** Aluminum extrusions.

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

LINEAR DIFFUSERS AND BAR GRILLES



## Dimensional Data

### Linear Louver Diffusers

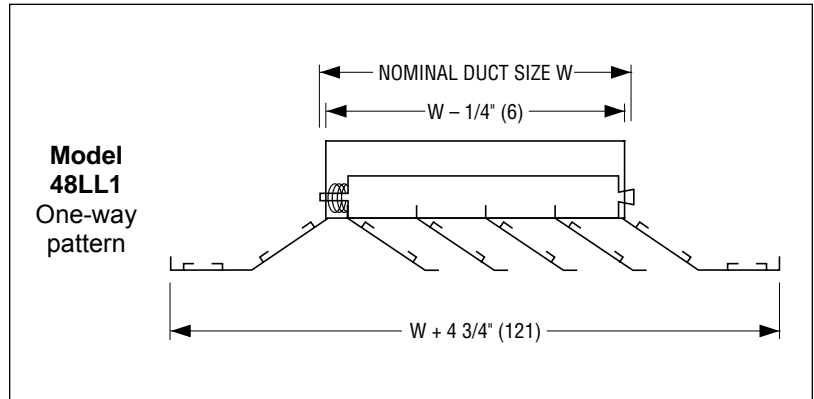
#### AVAILABLE SIZES:

Unit Size is determined by duct width W.  
Diffuser necks are undersized.

#### Model 48LL1:

Available widths are 3", 4 1/2", 6", 7 1/2", 9", 10 1/2", 12" (76, 114, 152, 191, 229, 267, 305).

Standard lengths are 24", 36", 48", 60" and 72" (600, 900, 1200, 1500 and 1800).



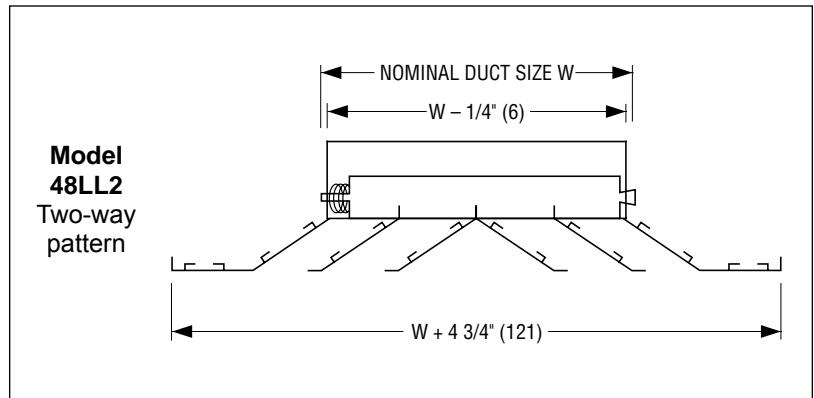
#### Available Widths

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

#### Model 48LL2:

Available widths are 3", 6", 9", 12" (76, 152, 229, 305).

Standard lengths are 24", 36", 48", 60" and 72" (600, 900, 1200, 1500 and 1800).



#### Available Widths

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

## HOW TO SPECIFY OR TO ORDER

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

### Extruded Aluminum Linear Louver (Vane) Diffusers – Model Series 48LL

48LL2 - O - 48" x 6" - AW - N - MM - —

#### MODEL

- One-Way Pattern 48LL1
- Two-Way Pattern 48LL2

#### DAMPER

- No Damper (default) —
- Steel Damper O
- Aluminum Damper OA

#### LENGTH (inches)

#### WIDTH

##### Model 48LL1

##### (inches)

- 3", 4 1/2", 6", 7 1/2", 9", 10 1/2", 12"

##### (mm)

- 76, 114, 152, 191, 229, 267, 305

##### Model 48LL2

##### (inches)

- 3", 6", 9", 12"

##### (mm)

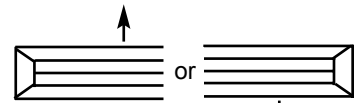
- 76, 152, 229, 305

#### ACCESSORIES

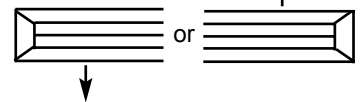
- None (default) —
- Directional Vanes DV

#### END CAP CONFIGURATION

- Mitered Mitered (default) MM
- Open Open OO
- Mitered Open MO (for 48LL2)
- Mitered Open MU (for 48LL1)



- Mitered Open MD (for 48LL1)



#### FASTENING

- None (default) N
- Screw Holes A

#### FINISH

- Appliance White (default) AW
- Aluminum AL
- Mill Finish MI
- Special SP

#### Notes:

1. Currently only available in discrete lengths of up to 72" (1829).
2. Contact factory regarding availability of continuous lengths.
3. Consult Dimensional Data page for available length dimensions.

#### SUGGESTED SPECIFICATION:

Furnish and install **Nailor Model** (select one) **48LL1** (one-way pattern) or **48LL2** (two-way pattern) **Linear Louver (Vane) Diffusers** of the sizes and capacities as shown on the plans and air distribution schedules. The diffuser shall be manufactured from extruded aluminum and incorporate fixed pattern discharge louvers for a horizontal throw pattern. The entire core assembly shall be removable without the use of tools. The length shall be available in standard nominal lengths of 24", 36", 48", 60" and 72" (600, 900, 1200, 1500 and 1800 mm). The rectangular duct connection collar shall be an integral part of the frame assembly and be not less than 1 1/2" (38) high. The finish is to be AW Appliance White baked enamel (optional finishes are available).

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

The manufacturer shall provide published performance data for the linear louver diffuser, which shall be tested in accordance with ANSI/ASHRAE Standard 70 – 1991.

## Performance Data

### Model: 48LL-1 • One-Way Pattern

Nominal Duct Width, inches	Neck Velocity Velocity Pressure Total Pressure	300 .006 .037	400 .010 .064	500 .016 .101	600 .022 .145	700 .031 .197	800 .040 .258	900 .050 .326
3"	CFM per ft.	75	100	125	150	175	200	225
	NC	—	—	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"	CFM per ft.	113	150	188	225	263	300	338
	NC	—	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"	CFM per ft.	150	200	250	300	350	400	450
	NC	—	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"	CFM per ft.	187	150	312	375	437	500	563
	NC	—	17	23	27	31	35	38
	Throw	23-29-41	27-33-47	29-37-52	33-41-56	36-43-61	38-47-65	41-49-70
9"	CFM per ft.	225	300	375	450	525	600	675
	NC	—	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"	CFM per ft.	263	350	438	525	613	700	788
	NC	—	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"	CFM per ft.	300	400	500	600	700	800	900
	NC	—	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 48LL-2 • Two-Way Pattern

Nominal Duct Width, inches	Neck Velocity Velocity Pressure Total Pressure	300 .006 .037	400 .010 .064	500 .016 .101	600 .022 .145	700 .031 .197	800 .040 .258	900 .050 .326
3"	CFM per ft.	75	100	125	150	175	200	225
	NC	—	13	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"	CFM per ft.	150	200	250	300	350	400	450
	NC	—	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"	CFM per ft.	225	300	375	450	525	600	675
	NC	—	18	24	28	32	36	39
	Throw	14-21-37	19-28-43	24-34-48	28-37-52	32-39-55	35-43-60	37-45-64
12"	CFM per ft.	300	400	500	600	700	800	900
	NC	—	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
Throw Correction	.70	.86	1.0	1.1	1.25	1.4	1.55	1.7

#### NC Correction Factors for Various Lengths

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

#### Performance Notes:

1. All pressures are in inches w.g.
2. Horizontal throws are given at 150, 100 and 50 fpm terminal velocities under isothermal conditions.
3. Throw values are based on a 4 ft. section. For other lengths, use the correction factor table above.
4. NC values are based on a 4 ft. section and a room

absorption of 10 dB, re 10<sup>-12</sup> watts. For other lengths, use the correction factor table. Dash (—) in space denotes an NC value less than 15.

5. When used as a return intake, the NC value is increased by 4 and the negative static pressure is TP x 0.8.
6. Data derived from tests conducted in accordance with ANSI/ASHRAE Standard 70 – 1991.