

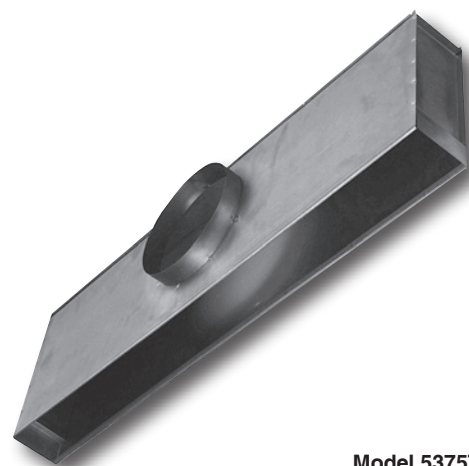
## LINEAR SLOT DIFFUSER PLENUMS FOR TECHZONE™ TYPE CEILINGS

Model Series 5300TZ Plenums are designed to fit the 5000TZ Series Slot Diffusers. The plenums are constructed from corrosion-resistant steel and are available in two different styles for an extensive performance range.

Available choice of 1 to 4 slots are available to suit capacity requirements and three frame styles for Armstrong® TechZone™ and USG Logix™ ceiling systems. The standard constructed plenum is suited for applications that require longer throws and shorter spreads, whereas the modified plenum increases the spread and reduces the throw. Specially designed end caps can be turned up for continuous runs. All styles are offered with internal or external insulation.

- Standard Performance (non-insulated)** – Model 5375TZ
- Standard Performance (internally insulated)** – Model 5375TZI
- Modified Performance (non-insulated)** – Models 5375TZMP
- Modified Performance (internally insulated)** – Models 5375TZIMP, 5310TZIMP, 5315TZIMP

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**Model 5375TZ**

**B**  
**LINEAR DIFFUSERS AND BAR GRILLES**



**Models 49-240, 49-280 and 49-480**

## LINEAR BAR GRILLES

4900 Series provides an extruded aluminum bar grille that offers beautiful styling and efficient performance.

Linear bar grilles offer a choice of fixed air patterns with 0°, 15° or 30° air deflection, a choice of bar widths and spacing and a wide choice of border/frame style combinations to suit most types of installation. They are available with an optional opposed blade damper for volume control. Linear bar grilles are recommended for supply air applications in floors, window sills, and high sidewall locations. They are not generally suited to ceiling mounted supply applications (other than for directional spot heating or cooling as an air curtain) as they are not designed for horizontal projection from the face.

Models 49-240, 49-241, 49-243, 49-280, 49-281, 49-480, 49-481

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Suffix '-O' adds a steel OBD.

## LINEAR LOUVER DIFFUSERS

48LL Series Linear Louver (Vane) Diffusers are designed to provide a high capacity, architecturally pleasing linear diffuser that can supply large volumes of air at relatively low sound levels and pressure drops.

High quality, extruded aluminum angular discharge louvers are designed to create a stable horizontal air pattern that is tight to the ceiling. Ideal for applications in VAV systems, these diffusers create a strong ceiling coanda effect at typical maximum and minimum flow rates and ensure optimal comfort conditions.

- Models 48LL, 48LL2
- Suffix '-O' adds a steel OBD.
- Suffix '-OA' adds an aluminum OBD.

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**Models 48LL2 and 48LL1**



**Models 48LV1 and 48LV2**

## LINEAR VANE DIFFUSERS

48LV Series Linear Vane Diffusers are designed to provide an effective, architecturally pleasing linear vane diffuser that are suited for supply and return applications.

Available in one-way or two-way pattern with fixed vanes that provide a tight coanda air pattern for optimal VAV performance. The core assembly is removable for ease of installation and access to the optional opposed blade damper.

- Models 48LV1, 48LV2
- '-OBD' adds a steel OBD.
- '-OBDA' adds an aluminum OBD.

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## LINEAR VANE DIFFUSERS

- EXTRUDED ALUMINUM
- ARCHITECTURAL
- FIXED VANES
- ONE-WAY AND TWO-WAY DEFLECTION CORE



Models 48LV1 and 48LV2

### Models:

48LV1 One-Way Pattern

48LV2 Two-Way Pattern

- '-OBD' adds a steel OBD
- '-OBDA' adds an aluminum OBD

Model Series 48LV Linear Vane Diffusers are effective architectural designs suited for supply and return air applications. The linear vane diffusers feature extruded aluminum construction. Available in one-way or two-way pattern with fixed vanes that provide a tight coanda air pattern for optimal VAV performance. The core assembly is removable for ease of installation and access to the optional opposed blade damper.

### STANDARD FEATURES:

- Extruded aluminum construction.
- Frame/Border is Type A with 1" (25) flange.
- Minimum length 8" (203). Maximum single section length is 96" (2438). Sizes over 96" (2438) will be supplied in multiple section assemblies with alignment strips for a clean and continuous appearance.
- Mitered endcaps.
- Removable core is secured with countersunk screws.

- Fastening: Type N is standard. Designed for duct mounted installation with concealed screws through the neck of the outer frame, providing an aesthetically clean visual appearance.

### CONSTRUCTION MATERIAL:

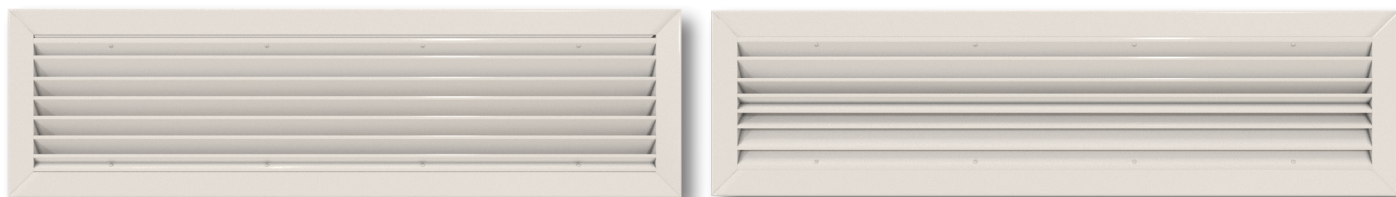
Extruded Aluminum.

### FINISH OPTIONS:

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

### OPTIONS & ACCESSORIES:

- Steel opposed blade damper (factory mounted).
- Aluminum opposed blade damper (factory mounted).
- DV Directional vanes (not available with OBD).
- Type A screw holes (in outer frame).



Models 48LV1 and 48LV2

## DIMENSIONAL DATA:

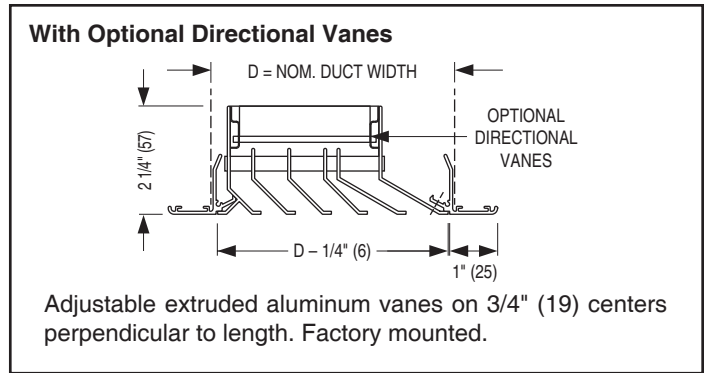
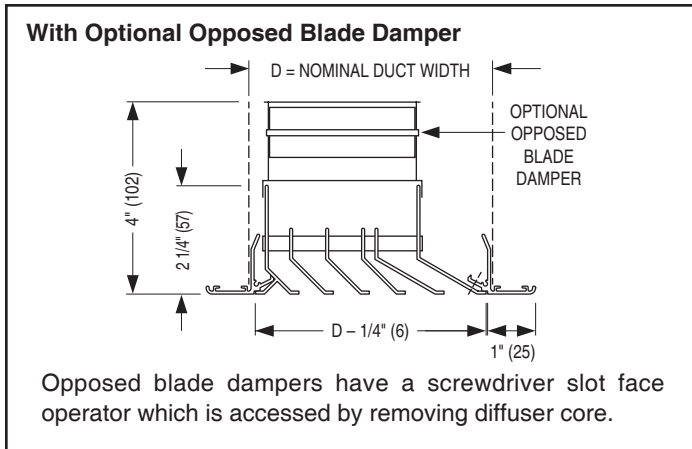
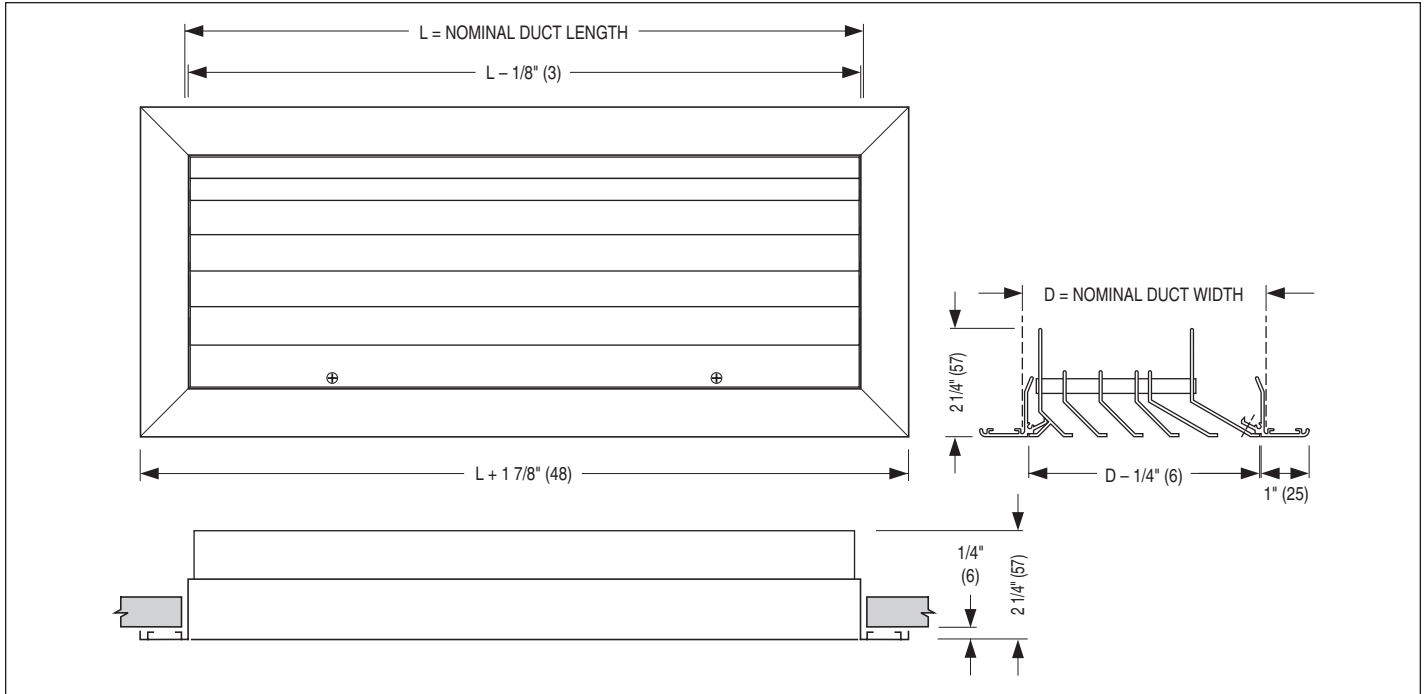
### MODEL 48LV1 LINEAR VANE DIFFUSERS • ONE-WAY PATTERN

#### AVAILABLE SIZES:

Duct width D is determined by diffuser listed width W. Diffuser necks are undersized.

Available widths are 3 1/2", 4 1/4", 5", 5 3/4", 6 1/2", 8", 9 1/2" and 11 3/4" (89, 108, 127, 146, 165, 203, 241 and 298).

Standard lengths are 12" to 96" (305 to 2438) in 12" (305) increments.



#### Available Widths

<b>Listed Width W</b>	3 1/2 (89)	4 1/4 (108)	5 (127)	5 3/4 (146)	6 1/2 (165)	8 (203)	9 1/2 (241)	11 3/4 (298)
<b>Nom. Duct Width D</b>	3 5/8 (92)	4 3/8 (111)	5 1/8 (130)	5 7/8 (149)	6 5/8 (168)	8 1/8 (206)	9 5/8 (244)	11 7/8 (302)

## DIMENSIONAL DATA:

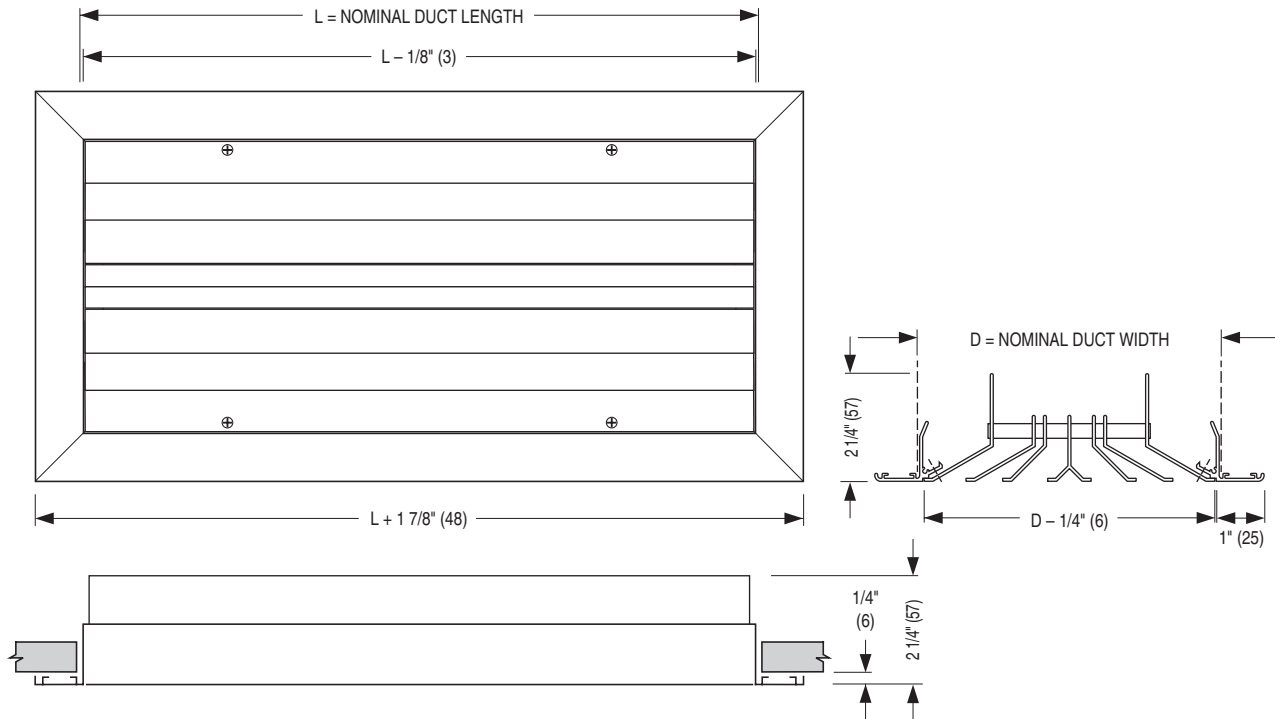
### MODEL 48LV2 LINEAR VANE DIFFUSERS • TWO-WAY PATTERN

#### AVAILABLE SIZES:

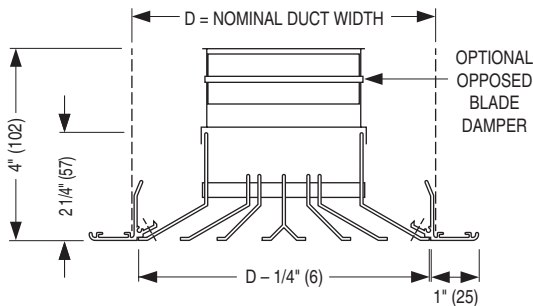
Duct width D is determined by diffuser listed width W. Diffuser necks are undersized.

Available widths are 6 1/4", 7 3/4", 9 1/4", 10 3/4" and 12 1/4" (159, 197, 235, 273 and 311).

Standard lengths are 12" to 96" (305 to 2438) in 12" (305) increments.

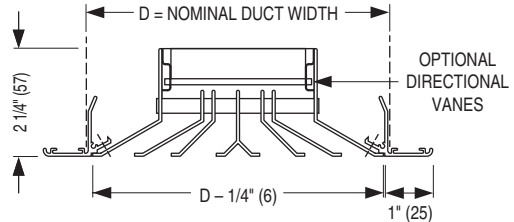


#### With Optional Opposed Blade Damper



Opposed blade dampers have a screwdriver slot face operator which is accessed by removing diffuser core.

#### With Optional Directional Vanes



Adjustable extruded aluminum vanes on 3/4" (19) centers perpendicular to length. Factory mounted.

#### Available Widths

<b>Listed Width W</b>	6 1/4 (159)	7 3/4 (197)	9 1/4 (235)	10 3/4 (273)	12 1/4 (311)
<b>Nom. Duct Width D</b>	6 3/8 (162)	7 7/8 (200)	9 3/8 (238)	10 7/8 (277)	12 3/8 (315)

## PERFORMANCE DATA:

### Model: 48LV1 • One-Way Pattern

Nominal Duct Width Size								
3 1/2"	Airflow, CFM/FT	21	31	41	51	61	71	81
	Total Pressure	.004	.008	.014	.021	.030	.041	.053
	Noise Criteria	-	-	22	27	31	35	38
	Ceiling Throw	6-9-14	8-12-17	11-14-20	13-16-22	14-17-24	15-19-26	16-20-28
4 1/4"	Airflow, CFM/FT	30	45	60	75	90	105	120
	Total Pressure	.005	.012	.021	.032	.047	.063	.083
	Noise Criteria	-	17	25	30	35	38	41
	Ceiling Throw	6-9-17	9-14-21	12-17-24	16-19-27	17-21-30	18-23-32	20-24-34
5"	Airflow, CFM/FT	40	60	80	100	120	140	160
	Total Pressure	.007	.015	.026	.041	.059	.080	.105
	Noise Criteria	-	18	26	31	36	39	42
	Ceiling Throw	7-10-20	10-15-24	14-20-28	17-22-31	20-24-34	21-26-37	23-28-39
5 3/4"	Airflow, CFM/FT	52	78	104	130	156	182	208
	Total Pressure	.009	.019	.034	.054	.078	.106	.138
	Noise Criteria	-	21	28	33	37	41	44
	Ceiling Throw	8-12-22	12-18-27	16-22-32	20-25-35	22-27-39	24-30-42	26-32-45
6 1/2"	Airflow, CFM/FT	67	100	133	166	199	232	265
	Total Pressure	.011	.025	.044	.068	.098	.133	.173
	Noise Criteria	-	22	29	34	39	42	45
	Ceiling Throw	9-14-25	14-20-31	18-25-36	23-28-40	25-31-44	27-34-47	29-36-51
8"	Airflow, CFM/FT	90	135	180	225	270	315	360
	Total Pressure	.013	.030	.054	.084	.121	.165	.216
	Noise Criteria	-	23	29	35	39	43	46
	Ceiling Throw	10-16-30	16-24-36	21-30-42	26-33-47	30-36-51	32-39-55	34-42-59
9 1/2"	Airflow, CFM/FT	115	173	231	289	347	405	463
	Total Pressure	.016	.035	.063	.098	.142	.193	.252
	Noise Criteria	-	22	29	35	39	43	46
	Ceiling Throw	12-18-33	18-27-41	24-33-47	30-37-53	33-41-58	36-44-63	39-47-67
11 3/4"	Airflow, CFM/FT	160	238	316	394	472	550	628
	Total Pressure	.020	.044	.078	.121	.174	.236	.308
	Noise Criteria	-	23	30	35	39	43	46
	Ceiling Throw	14-22-39	21-32-48	28-39-55	35-44-62	39-48-68	42-52-73	45-55-78

B

LINEAR DIFFUSERS AND BAR GRILLES

### 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<sup>-12</sup> 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.

## PERFORMANCE DATA:

### Model: 48LV2 • Two-Way Pattern

Nominal Duct Width Size								
6 1/4"	Airflow, CFM/FT	41	62	83	104	125	146	167
	Total Pressure	.005	.012	.021	.033	.048	.066	.086
	Noise Criteria	-	18	26	31	36	39	43
	Ceiling Throw	5-8-14	8-12-17	10-14-19	12-15-22	14-17-24	15-18-26	16-19-27
7 3/4"	Airflow, CFM/FT	62	94	126	158	190	222	254
	Total Pressure	.008	.018	.032	.050	.072	.099	.129
	Noise Criteria	-	21	28	34	38	42	45
	Ceiling Throw	6-9-17	9-14-21	13-17-24	15-19-27	17-21-29	18-22-32	20-24-34
9 1/4"	Airflow, CFM/FT	84	126	168	210	252	294	336
	Total Pressure	.010	.022	.040	.062	.089	.122	.159
	Noise Criteria	-	22	29	34	39	42	46
	Ceiling Throw	7-11-19	11-16-24	15-19-27	18-22-31	19-24-34	21-26-36	22-27-39
10 3/4"	Airflow, CFM/FT	107	161	215	269	323	377	431
	Total Pressure	.012	.027	.048	.075	.109	.148	.193
	Noise Criteria	-	23	30	35	39	43	46
	Ceiling Throw	8-12-22	12-19-27	17-22-31	20-25-35	22-27-38	24-29-41	25-31-44
12 1/4"	Airflow, CFM/FT	131	197	263	329	395	461	527
	Total Pressure	.014	.031	.055	.087	.125	.170	.223
	Noise Criteria	-	24	31	36	40	44	48
	Ceiling Throw	9-14-24	14-21-30	18-24-34	22-27-38	24-30-42	26-32-46	28-34-49

### 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<sup>-12</sup> 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

## HOW TO ORDER OR TO SPECIFY

### LINEAR VANE DIFFUSERS – MODEL SERIES 48LV MODELS 48LV1 AND 48LV2

**EXAMPLE: 48LV1 - 48" x 5" - A - AW - N - MM - OBD**

**1. Models**

- 48LV1 One-Way Pattern
- 48LV2 Two-Way Pattern

**2. Length**

inches (mm's)

**3. Width**

inches (mm's)

**48LV1**

3.5, 4.25, 5, 5.75, 6.5, 8, 9.5 and 11.75  
(89, 108, 127, 146, 165, 203, 241 and 298)

**48LV2**

6.25, 7.75, 9.25, 10.75 and 12.25  
(159, 197, 235, 273 and 311)

**4. Frame/Border**

A 1" (25) Flange (default)

**5. Finish**

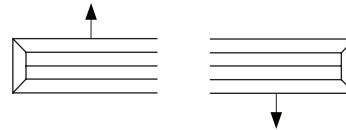
- AW Appliance White (default)
- AL Aluminum
- BK Black
- BW British White
- MI Mill
- PC Prime coat paint
- PPA Paint prepared aluminum
- SP Special
- LBP Light Bronze Paint
- MBP Medium Bronze Paint
- DBP Dark Bronze Paint

**6. Fastening**

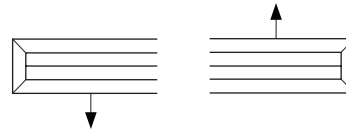
- N None (default)
- A Screw Holes

**7. End Cap Configuration**

- MM Mitered Mitered (default)
- OO Open Open
- MO Mitered Open (for 48LV2)
- MU Mitered Open (for 48LV1)



MD Mitered Open (for 48LV1)



**8. Damper**

- None (default)
- OBD Opposed Blade, Steel
- OBDA Opposed Blade, Aluminum

**9. Accessories**

- None (default)
- DV Directional Vanes

**Notes:**

1. **Maximum single section length is 96" (2438). Longer lengths are supplied in multiple sections, the number and size determined by the factory.**
2. Widths are available in the above sizes only.
3. Standard Type N fastening requires concealed screws (by others) installed through neck into duct.

**SUGGESTED SPECIFICATION:**

Furnish and install **Nailor Model** (select one) **48LV1** (one-way pattern) or **48LV2** (two-way pattern) **Linear Vane Diffusers** of the sizes and capacities shown on the plans and air distribution schedules. The diffuser shall be constructed from extruded aluminum. The fixed deflectors are to be removeable and the diffuser is to be fastened through the neck of the outer frame to ensure a clean appearance. Endcaps to be mitered and all multiple section sizes to be shipped with alignment strips. The finish is to be AW Appliance White (optional finishes are available).

Optional steel opposed blade damper (OBD) or aluminum opposed blade damper (OBDA) shall be mounted to the neck of the diffuser. The damper must be operable through the face of the diffuser.

Optional directional vanes (DV) to have fully adjustable extruded aluminum blades on 3/4" (19) centers. The blades shall be perpendicular to the linear vanes.

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