

## Extruded Aluminum Penthouse Drainable Blade

Model: PDBB Post Corner

### Model PDBB

#### ▼ Standard Specifications

**Blades:** 6063-T6 extruded aluminum with .081" (2.1mm) thickness. All units incorporate hidden mullions at 60" (1219mm) centers for blade support.

**Roof:** Fabricated at .050" (1.3mm) thickness 3003-H14 formed aluminum, roof is secured with sheet metal screws for ease in removal. Flat roof models are cross broken for adequate element run-off. Models with pitched roofs have a 1" in 12" or 3" in 12" (25.4mm in 305mm or 76mm in 305mm) pitch.

**Internal Framing:** 1-1/2" x 1-1/2" x 1/8" (38mm x 38mm) framing angles of 6063-T6 extruded aluminum on 48" (1219mm) maximum centers.

**Screen:** 3/4" x .051" flattened aluminum birdscreen

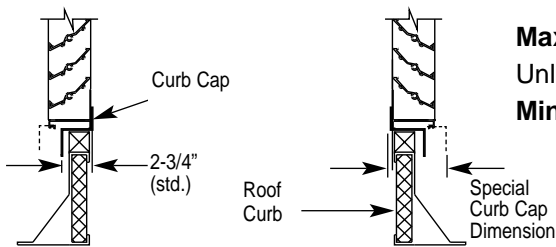
**Finish:** all aluminum mill finish for low maintenance and resistance to corrosion

**Sizing:** Order size is actual throat dimensions. Throat is undercut 1/4" (6mm) in both "A" and "B" dimensions for installation allowance.

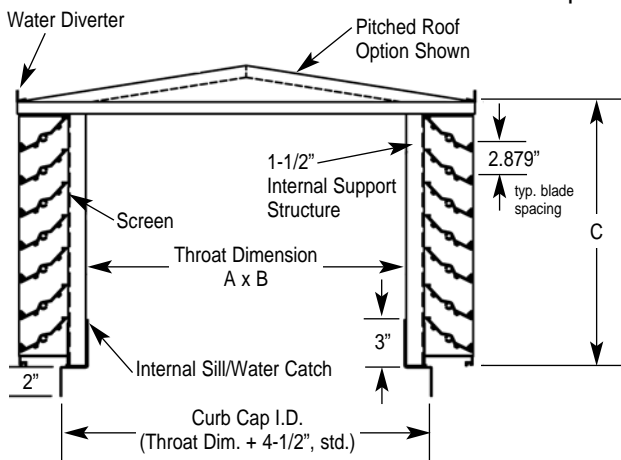
**Maximum:** 72"w x 220"l x 80"h (1829mm x 5588mm x 2032mm)  
Unlimited size with multiple section assembly

**Minimum:** 12"w x 12"l x 10-1/2"h (305mm x 305mm x 267mm)

**Note:** Louvered Penthouses are reasonably weather tight. However, they are not recommended for use where airborne water droplets from storms or high winds may damage the interior of the building. Provisions should always be made for potential wind driven rain or snow carry over because air can pass completely through a Louvered Penthouse.



Standard Curb Cap Installation



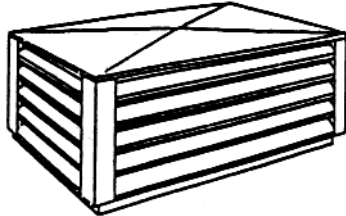
A and B dimensions approximately 1/4" under listed size.



The Carnes Company certifies that the model PDBB shown herein is licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 511 and comply with the requirements of the AMCA Certified Ratings Program. The AMCA Certified Ratings Seal applies to air performance ratings and water penetration ratings.

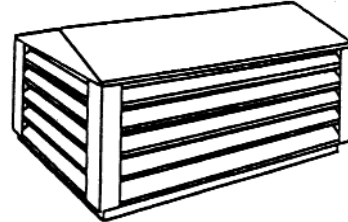
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### Roof Style Selection



Flat

Flat roofs are cross broke for adequate element run off. Roofs are supported by angle bracing which prevents oil canning. When size requires the unit be sectioned, it is joined with a standing seam to prevent leakage. This style of roof is available on units up to 72" on the shortest dimension only, larger units must incorporate a pitched style roof.



Pitched

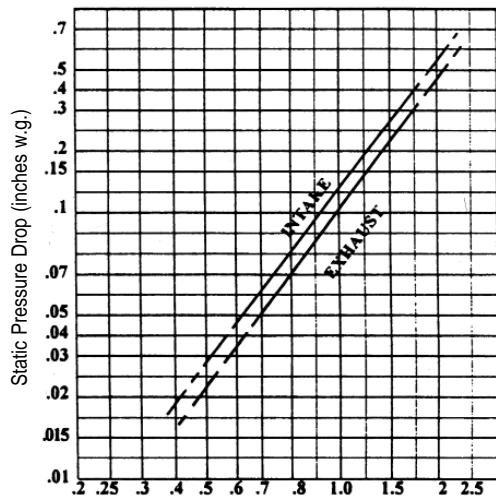
Pitched roofs (pitched on short width) are supported with a superior truss system which not only create the structural integrity comparable to that of a building, but eliminates the rolling sound of wind across the roof. Trusses are placed at a maximum 24" centers and anchored to the internal frame of the structure. When size requires the unit be sectioned, it is joined with a standing seam to prevent leakage.

### Performance Data

AMCA Standard 500 provides a reasonable basis for testing and rating louvers. Testing to AMCA 500 is performed under a certain set of laboratory conditions. This does not guarantee that other conditions will not occur in the actual environment where louvers must operate.

The louver system should be designed with a reasonable safety factor for louver performance. To ensure protection from water carryover, design with a performance level somewhat below maximum desired pressure drop and .01 oz./sq.ft. of water penetration.

### Pressure Drop



#### FREE AREA VELOCITY (FT/MIN)

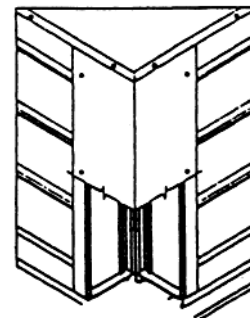
Standard air - .075 lbs per cu ft

Ratings do not include the effects of a wire birdscreen

Test based on a 48" x 48" test size, 15 min test duration

Beginning point of WATER PENETRATION lies above 1250 fpm the maximum recommended FREE AREA VELOCITY

### Corner Style Selection



Drainable units available in post corner only. Independent louver panels (sides) are built and mounted to the internal framing with corner covers installed.

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### Free Area in Square Feet

HEIGHT INCHES	WIDTH IN INCHES																		
	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96	102	108	114	120
12	0.32	0.51	0.71	0.91	1.1	1.3	1.5	1.7	1.89	2.09	2.29	2.48	2.68	2.88	3.08	3.27	3.47	3.67	3.86
18	0.55	0.9	1.24	1.59	1.93	2.28	2.63	2.97	3.32	3.66	4.01	4.35	4.7	5.04	5.39	5.73	6.08	6.42	6.77
24	0.8	1.3	1.8	2.3	2.8	3.3	3.8	4.3	4.8	5.3	5.8	6.3	6.8	7.3	7.8	8.3	8.8	9.3	9.79
30	0.99	1.61	2.23	2.84	3.46	4.08	4.7	5.31	5.93	6.55	7.17	7.78	8.4	9.02	9.64	10.25	10.87	11.49	12.11
36	1.21	1.97	2.73	3.48	4.24	4.99	5.75	6.51	7.26	8.02	8.78	9.53	10.29	11.05	11.8	12.56	13.31	14.07	14.83
42	1.47	2.38	3.3	4.22	5.13	6.05	6.96	7.88	8.79	9.71	10.63	11.54	12.46	13.37	14.29	15.2	16.12	17.04	17.95
48	1.69	2.75	3.8	4.86	5.91	6.96	8.02	9.07	10.13	11.18	12.24	13.29	14.35	15.4	16.45	17.51	18.56	19.62	20.67
54	1.92	3.12	4.32	5.52	6.72	7.92	9.11	10.31	11.51	12.71	13.91	15.11	16.31	17.51	18.7	19.9	21.1	22.3	23.5
60	2.16	3.5	4.85	6.19	7.53	8.88	10.22	11.57	12.91	14.26	15.6	15.94	18.29	19.63	20.98	22.32	23.67	25.01	26.35
66	2.39	3.88	5.37	6.86	8.35	9.84	11.33	12.82	14.31	15.8	17.29	18.79	20.28	21.77	23.26	24.75	26.24	27.73	29.22
72	2.63	4.26	5.9	7.54	9.18	10.81	12.45	14.09	15.73	17.36	19	20.64	22.28	23.91	25.55	27.19	28.83	30.46	32.1
78	2.85	4.63	6.4	8.18	9.95	11.73	13.51	15.28	17.06	18.84	20.61	22.39	24.16	25.94	27.72	29.49	31.27	33.05	34.82
84	3.11	5.04	6.98	8.91	10.85	12.78	14.72	16.66	18.59	20.53	22.46	24.4	26.34	28.27	30.21	32.14	34.08	36.01	37.95
90	3.34	5.42	7.5	9.58	11.66	13.74	15.82	17.9	19.97	22.05	24.13	26.21	28.29	30.37	32.45	34.53	36.61	38.69	40.77
96	3.58	5.82	8.05	10.29	12.52	14.76	16.99	19.22	21.46	23.69	25.93	28.16	30.39	32.63	34.86	37.1	39.33	41.57	43.8
102	3.76	6.1	8.44	10.78	13.12	15.47	17.81	20.15	22.49	24.83	27.17	29.52	31.86	34.2	36.54	38.88	41.22	43.57	45.91
108	4.05	6.58	9.11	11.64	14.16	16.69	19.22	21.75	24.27	26.8	29.33	31.86	34.38	36.91	39.44	41.96	44.49	47.02	49.55
114	4.24	6.89	9.53	12.18	14.82	17.47	20.12	22.76	25.41	28.05	30.7	33.34	35.99	38.63	41.28	43.92	46.57	49.21	51.86
120	4.48	7.27	10.06	12.85	15.64	18.43	21.22	24.02	26.81	29.6	32.39	35.18	37.97	40.76	43.55	46.34	49.14	51.93	54.72

### PDBB Selection and Examples

**Example 1:**

Airflow given as 12,000 cfm - select four louver sides.

- A. 12,000 cfm ÷ four sides = 3,000 cfm per side
- B. 3,000 cfm ÷ \*600fpm = 5.0 ft<sup>2</sup> (F.A.) per side
- C. Select louver from the above free area chart.

64" w x 24" h = 5.0 ft<sup>2</sup> (F.A.)  
 5.0 ft<sup>2</sup> x 4 sides = 20.0 ft<sup>2</sup> total

**Example 2:**

To select "rectangular" shape in lieu of square:

- A. Simply break down 30 ft.<sup>2</sup>  
 $5 + 5 + 10 + 10 = 30 \text{ ft.}^2$
- B. Select louver from above free area chart.  
 $5 \text{ ft.}^2 = 42" \times 36"$   
 $10 \text{ ft.}^2 = 82" \times 36"$   
 Penthouse Size 82" x 42" x 36" h

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### Performance Data (CFM)

Length + Width (A + B)	Height (Tiers)	Free Area Velocity / Pressure Drop - Intake (fpm/in. of w.g.)								
		200/.025	300/.045	400/.050	500/.060	*600/.080	700/.090	800/.110	900/.130	1000/.155
24	16" (3)	400	600	800	1,000	1,225	1,425	1,625	1,825	2,025
	20-1/2" (4)	625	950	1,275	1,600	1,900	2,225	2,560	2,875	3,200
36	16" (3)	600	900	1,200	1,520	1,825	2,125	2,425	2,725	3,025
	20-1/2" (4)	925	1,375	1,850	2,300	2,775	3,225	3,700	4,175	4,625
48	16" (3)	775	1,175	1,575	1,975	2,375	2,750	3,150	3,550	3,950
	20-1/2" (4)	1,200	1,825	2,425	3,050	3,650	4,275	4,875	5,500	6,100
	25-1/4" (5)	1,600	2,400	3,225	4,025	4,825	5,650	6,450	7,250	8,075
60	16" (3)	975	1,475	1,975	2,475	2,975	3,450	3,950	4,450	4,950
	20-1/2" (4)	1,500	2,275	3,025	3,800	4,550	5,300	6,075	6,825	7,600
	25-1/4" (5)	2,000	3,000	4,000	5,000	6,000	7,000	8,000	9,000	10,000
	29-3/4" (6)	2,375	3,575	4,750	5,950	7,150	8,325	9,525	10,725	11,900
	34-1/2" (7)	2,725	4,100	5,475	6,850	8,225	9,600	10,975	12,325	13,700
72	20-1/2" (4)	1,800	2,700	3,625	4,525	5,425	6,350	7,250	8,150	9,075
	25-1/4" (5)	2,400	3,600	4,800	6,000	7,200	8,400	9,600	10,800	12,000
	29-3/4" (6)	2,825	4,250	5,700	7,100	8,525	9,950	11,350	12,800	14,200
	34-1/2" (7)	3,275	4,925	6,575	8,225	9,875	11,525	13,175	14,825	16,475
	39" (8)	3,825	5,750	7,700	9,600	11,525	13,450	15,375	17,300	19,225
84	25-1/4" (5)	2,775	4,175	5,575	6,975	8,375	9,750	11,150	12,550	13,950
	29-3/4" (6)	3,300	4,950	6,600	8,250	9,900	11,550	13,200	14,850	16,500
	34-1/2" (7)	3,828	5,725	7,650	9,575	11,500	13,400	15,325	17,225	19,150
	39" (8)	4,475	6,700	8,950	11,200	13,425	15,675	17,900	20,150	22,400
	43-5/8" (9)	5,125	7,675	10,250	12,800	15,375	17,925	20,500	23,075	25,625
96	25-1/4" (5)	3,175	4,775	6,350	7,950	9,550	11,100	12,725	14,300	15,900
	29-3/4" (6)	3,750	5,650	7,525	9,400	11,300	13,175	15,050	16,950	18,000
	34-1/2" (7)	4,350	6,550	8,725	10,900	13,100	15,275	17,450	19,650	21,800
	39" (8)	5,100	7,650	10,200	12,750	15,300	17,850	20,400	22,950	25,500
	43-5/8" (9)	5,825	8,750	11,675	14,600	17,500	20,425	23,350	26,275	29,200
	48-3/8" (10)	6,425	9,650	12,875	16,100	19,300	22,550	25,775	29,000	32,200
120	25-1/4" (5)	3,950	5,950	7,925	9,900	11,900	13,875	15,850	17,850	19,800
	29-3/4" (6)	4,700	7,025	9,375	11,725	14,075	16,425	18,775	21,100	23,475
	34-1/2" (7)	5,425	8,150	10,875	13,600	16,300	19,000	21,750	24,450	27,200
	39" (8)	6,350	9,525	12,700	15,900	19,075	22,250	25,400	28,600	31,800
	43-5/8" (9)	7,275	10,900	14,550	18,200	21,825	25,475	29,100	32,750	36,400
	48-3/8" (10)	8,025	12,025	16,050	20,075	24,075	28,100	32,100	36,100	40,150

\*Maximum recommended free area intake velocity.

See catalog product page for construction details.

**Performance Caution:** Wind driven rain conditions could cause some water to penetrate through the louver blades. Louvered penthouses are reasonably weather tight. However, they are not recommended for use where airborne water droplets from storms or high winds may damage the interior of the building. Provisions should always be made for potential wind driven rain or snow carry over because air can pass completely through a louvered penthouse.

## Model PDBB

### Performance Data (CFM)

Length + Width (A + B)	Height (Tiers)	Free Area Velocity / Pressure Drop - Intake (fpm/in. of w.g.)								
		200/.025	300/.045	400/.050	500/.060	*600/.080	700/.090	800/.110	900/.130	1000/.155
144	29-3/4" (6)	5,600	8,425	11,225	14,000	16,825	19,650	22,450	25,250	28,000
	34-1/2" (7)	6,500	9,750	13,000	16,275	19,525	22,775	26,000	29,300	32,500
	39" (8)	7,600	11,400	15,200	19,000	22,800	26,600	30,400	34,200	38,000
	43-5/8" (9)	8,700	13,050	17,400	21,775	26,100	30,475	34,825	39,200	43,500
	48-3/8" (10)	9,600	14,400	19,200	24,000	28,825	33,650	38,450	43,250	48,000
	53" (11)	11,000	16,550	22,000	27,600	33,100	38,600	44,100	49,675	55,200
192	57-1/2" (12)	12,000	18,000	24,000	30,000	36,000	42,000	48,025	54,025	60,000
	39" (8)	10,100	15,175	20,225	25,275	30,350	35,375	40,400	45,500	50,500
	43-5/8" (9)	11,575	17,375	23,150	28,950	34,750	40,550	46,325	52,125	57,900
	48-3/8" (10)	12,800	19,200	25,600	32,000	38,400	44,800	51,200	57,600	64,000
	53" (11)	14,650	22,000	29,300	36,600	44,000	51,300	58,650	66,000	73,600
	57-1/2" (12)	15,700	23,600	31,400	39,300	47,200	55,000	62,900	70,800	78,600
216	62-1/4" (13)	17,250	25,900	34,500	43,100	51,800	60,400	69,000	77,700	86,300
	66-3/4" (14)	18,800	28,300	37,700	47,200	56,600	66,000	75,500	84,900	94,400
	39" (8)	11,350	17,050	22,700	28,400	34,100	39,750	45,400	51,100	56,800
	43-5/8" (9)	13,000	19,500	26,000	32,550	39,000	45,550	52,075	58,575	65,100
	48-3/8" (10)	14,360	21,500	28,700	35,900	43,000	50,250	57,400	64,600	71,800
	53" (11)	16,475	24,700	32,975	41,200	49,475	57,700	65,975	74,200	82,475
240	57-1/2" (12)	17,900	26,900	35,875	44,850	53,800	62,775	71,750	80,700	89,700
	62-1/4" (13)	19,400	29,000	38,800	48,500	58,200	67,900	77,600	87,300	97,000
	66-3/4" (14)	21,200	31,875	42,500	53,150	63,775	74,400	85,000	95,675	106,300
	74-1/2" (15)	25,000	37,575	50,100	62,600	75,150	87,700	100,200	112,750	125,200
	48-3/8" (10)	15,500	23,300	31,075	38,850	46,625	54,400	62,175	69,950	77,700
	53" (11)	17,850	26,775	35,700	44,625	53,550	62,500	71,400	80,350	89,250
240	57-1/2" (12)	19,400	29,100	38,800	48,500	58,250	67,950	77,675	87,375	97,100
	62-1/4" (13)	21,000	31,500	42,000	52,500	63,000	73,500	84,000	94,500	105,000
	66-3/4" (14)	23,000	34,500	46,000	57,500	69,000	80,500	92,000	103,500	115,100
	74-1/2" (15)	27,100	40,675	54,250	67,800	81,300	94,900	108,500	122,000	135,650

\*Maximum recommended free area intake velocity.

See catalog product page for construction details.

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### PDBB Example

Required cfm: 47,000 (intake), .08" w.g. (max. pressure drop), no height restriction.

**Length + Width: Select 192**

Throat can be 96 x 96 (A + B) or a rectangular size such as 144 x 48 (A + B).

Select 12 tiers (57-1/2" tall) will allow up to 47,200 cfm at .08" w.g. pressure drop.