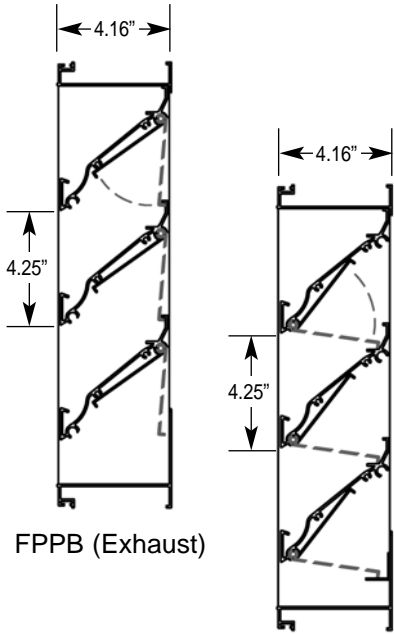


Model FPPB Channel Frame, FTPB Flanged Frame
 Combination Louver/Backdraft Damper, Exhaust
 Model FPQB Channel Frame, FTQB Flanged Frame
 Combination Louver/Backdraft Damper, Supply

CARNES COMPANY, 448 S. Main St., P. O. Box 930040, Verona, WI 53593-0040 Phone: (608)845-6411 Fax: (608)845-6504 carnes@carnes.com



FPPB (Exhaust)

FPQB (Supply)

Model FPPB and FPQB

Standard Specifications

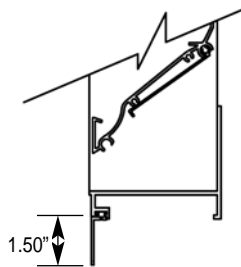
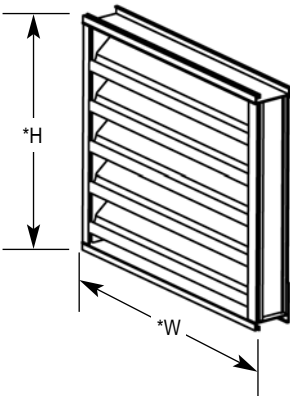
- Frame:** .081 extruded aluminum, 4-1/8" deep
- Fixed Blades:** .081 extruded aluminum positioned on a 39° angle on approximately 4.25" centers
- Damper Blade:** .060 extruded aluminum (blades move independent of each other)
- Finish:** mill aluminum (standard)
- Birdscreen:** 3/4" x .051" flattened aluminum in removable frame. Screen is mounted as standard on inside (rear) as looking from exterior of building.
- Maximum Single Section:** 60"w x 120"h
- Minimum Size:** 12"w x 12"h

Options

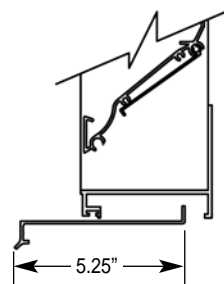
- Flanged Frame (1-1/2" std.)
- Extended Sill
- Glazing Adapter (1/2" or 3/4")
- Insect Screens
- Blade Seals
- Filter Racks
- Security Bars
- Welded Const. (wind load 50 p.s.f.)

Finishes

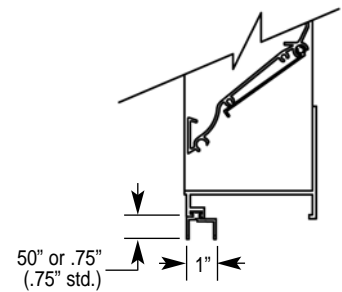
- Clear Anodize
- Dark Bronze
- Baked Enamel
- Kynar
- Prime Coat



Flanged Frame
Optional



Extended Sill
Optional



Glazed Adapter
Optional

*Width and Height dimensions are approximately 1/4" under listed size.

Tag	Qty.	Size		Frame	Variations
		Width	Height		

Project
Arch./Engr.
Representative

Location
Contractor
Date

Model FPPB/FTPB and FPQB/FTQB

FPPB Free Area in Square Feet

HEIGHT INCHES	WIDTH IN INCHES								
	12	18	24	30	36	42	48	54	60
12	0.24	0.39	0.55	0.70	0.85	1.00	1.15	1.30	1.45
18	0.47	0.75	1.04	1.32	1.61	1.90	2.18	2.47	2.76
24	0.66	1.06	1.47	1.88	2.28	2.69	3.09	3.50	3.90
30	0.93	1.51	2.08	2.65	3.23	3.80	4.38	4.95	5.52
36	1.09	1.76	2.43	3.09	3.76	4.43	5.10	5.77	6.44
42	1.35	2.18	3.00	3.83	4.66	5.49	6.32	7.15	7.98
48	1.55	2.51	3.47	4.42	5.38	6.34	7.29	8.25	9.21
54	1.76	2.84	3.93	5.01	6.10	7.18	8.26	9.35	10.43
60	2.02	3.26	4.50	5.74	6.98	8.22	9.46	10.70	11.94
66	2.02	3.26	4.50	5.74	6.98	8.22	9.46	10.70	11.94
72	2.45	3.96	5.46	6.97	8.48	9.98	11.49	13.00	14.51
78	2.61	4.22	5.82	7.43	9.04	10.64	12.25	13.86	15.46
84	2.86	4.63	6.39	8.15	9.91	11.67	13.44	15.20	16.96
90	3.10	5.01	6.92	8.83	10.73	12.64	14.55	16.46	18.37
96	3.28	5.29	7.31	9.33	11.35	13.36	15.38	17.40	19.41
102	3.55	5.74	7.92	10.11	12.29	14.48	16.66	18.85	21.04
108	3.72	6.01	8.30	10.59	12.88	15.17	17.46	19.75	22.04
114	3.97	6.41	8.85	11.29	13.73	16.17	18.61	21.05	23.49
120	4.19	6.76	9.34	11.92	14.49	17.07	19.64	22.22	24.80

FPQB Free Area in Square Feet

HEIGHT INCHES	WIDTH IN INCHES								
	12	18	24	30	36	42	48	54	60
12	0.25	0.40	0.56	0.71	0.87	1.02	1.17	1.33	1.48
18	0.48	0.77	1.06	1.36	1.65	1.94	2.24	2.53	2.82
24	0.68	1.10	1.52	1.94	2.36	2.78	3.20	3.62	4.04
30	0.96	1.55	2.14	2.74	3.33	3.92	4.51	5.10	5.69
36	1.12	1.81	2.50	3.19	3.88	4.57	5.26	5.95	6.64
42	1.39	2.25	3.11	3.96	4.82	5.68	6.54	7.39	8.25
48	1.61	2.60	3.58	4.57	5.56	6.55	7.54	8.53	9.52
54	1.82	2.95	4.07	5.19	6.32	7.44	8.56	9.68	10.81
60	2.08	3.37	4.65	5.93	7.22	8.50	9.78	11.07	12.35
66	2.09	3.38	4.66	5.95	7.24	8.52	9.81	11.10	12.38
72	2.54	4.10	5.66	7.22	8.78	10.34	11.90	13.46	15.02
78	2.70	4.37	6.03	7.69	9.36	11.02	12.68	14.35	16.01
84	2.97	4.79	6.62	8.44	10.27	12.10	13.92	15.75	17.57
90	3.21	5.19	7.16	9.14	11.11	13.09	15.06	17.04	19.02
96	3.40	5.49	7.58	9.67	11.76	13.86	15.95	18.04	20.13
102	3.68	5.94	8.20	10.47	12.73	14.99	17.26	19.52	21.78
108	3.85	6.23	8.60	10.97	13.34	15.71	18.08	20.45	22.83
114	4.11	6.64	9.17	11.70	14.23	16.75	19.28	21.81	24.34
120	4.34	7.00	9.67	12.34	15.01	17.68	20.35	23.01	25.68

FPPB and FPQB Selection and Examples

Example 1:

Airflow given as 10,000 cfm – select four louver sides

A. Determine louver free area by dividing airflow by free area velocity (do not exceed 1050 fpm on intake louver application).

$$10,000 \text{ cfm} \div 1050 \text{ fpm} = \underline{9.52 \text{ sq. ft.}}$$

$$\text{Airflow} \div \text{Velocity} = \text{Free Area}$$

B. Select a louver size with at least the required free area from the chart above (9.52 sq. ft.).

42" wide x 72" high FPPB louver = 9.98 sq. ft.
(other sections available, see chart above)

C. Check the pressure drop of the selected louver at the selected louver given airflow (Airflow Resistance Chart on page 2).

ΔP at 750 fpm = X.XX in. w.g.
Free Area Velocity Pressure Drop

Example 2:

Louver size given 36" wide x 48" high.
Determined maximum airflow.

A. Use Free Area Chart to determine

$$\text{Free Area} = 5.38 \text{ sq. ft.}$$

B. Multiply Free Area by Free Area Velocity (do not exceed 1050 fpm on intake louver applications).

$$5.38 \text{ sq. ft.} \times 1050 \text{ fpm} = 5,649 \text{ cfm}$$

$$\text{Free Area} \times \text{Max. Free Area Velocity} = \text{Max Airflow}$$