

C/S Blast Louver

BLAST DATA:

C/S Model BLH-5709 is designed to withstand up to an 12.6 psi blast pressure at an impulse of 77.8 psi-msec.

Typical Blast Requirements	
Pressure	Impulse
4.0 psi	28.0 psi-msec
6.0 psi	42.0 psi-msec
8.0 psi	59.0 psi-msec
12.6 psi	77.8 psi-msec

TEST DATA:

To maintain a **CLASS A (99%) effectiveness** rating with a 29.1 mph wind speed and rainfall rate of 3 in/hr

- ⇒ Maximum intake core velocity 4.0 m/s (763 FPM)
- ⇒ Maximum intake free area velocity 7.7 m/s (1,514 FPM)

To maintain a **CLASS B (95%) effectiveness** rating with a 50 mph wind speed and rainfall rate of 8 in/hr

- ⇒ Maximum intake core velocity 4.0 m/s (779 FPM)
- ⇒ Maximum intake free area velocity 7.9 m/s (1,546 FPM)

* Louver tested with 1 m² core area, mill finish and no screen

WIND DRIVEN RAIN PERFORMANCE:

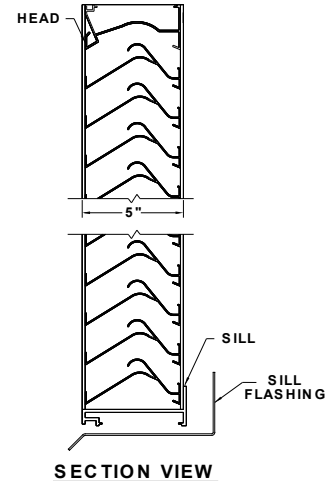
The louver test was based on a 39.370" (1.0 m) x 39.370" (1.0 m) core area unit tested at a rainfall rate of 3" per hour (75 mm/hr) and with a wind directed to the face of the louver at a velocity of 29.1 mph (13 m/s) as well as a rainfall rate of 8" per hour (203 mm) and a wind velocity of 50 mph (23.3 m/s). The test data shall show the water penetration effectiveness rating at each corresponding ventilation rate.

Core Ventilation Rate (m/s):	0.0	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0
Core Ventilation Rate (ft/min) @ 29 & 3:	0	132	197	287	380	472	585	688	763	883	989
Free Area Velocity (ft/min) @ 29 & 3:	0	262	391	570	754	937	1161	1365	1514	1752	1966
Rating Effectiveness @ 29 & 3	A	A	A	A	A	A	A	A	A	B	C
Effectiveness Ratio @ 29 & 3 (%)							99.9	99.5	99.4	98.1	94.9
Core Ventilation Rate (ft/min) @ 50 & 8:	0	100	177	285	397	479	565	687	788	876	944
Free Area Velocity (ft/min) @ 50 & 8:	0	198	351	565	788	950	1121	1363	1563	1738	1873
Rating Effectiveness @ 50 & 8	A	A	A	A	B	B	B	B	B	C	C
Effectiveness Ratio @ 50 & 8 (%)		99.4	99.3	99.2	98.9	98.6	98.2	97.3	96.0	92.9	87.9
Effectiveness Rating:	A = 1to 0.99		B = 0.989 to 0.95		C = 0.949 to 0.80		D = 0.799 to 0				



Construction Specialties Inc. certifies that the louver model BLH-5709 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, water penetration ratings, and wind driven rain ratings.

FINISH: All louvers shall be finished with C/S Powder Coat, a coating to be 1.5 to 3 mil. Thick full strength **100% resin Fluoropolymer coating**. Finish to allow **zero VOCs** to be omitted into facility of application. Finish to adhere to a 4H Hardness rating. All finishing procedures shall be one continuous operation in the plant of the manufacturer. **The coating shall meet or exceed all requirements of AAMA specification 2605** "Voluntary Specification for High Performance Organic Coatings on Architectural Extrusions and Panels." The louver manufacturer shall supply an industry standard **20-year limited warranty against failure or excessive fading** of the Fluoropolymer Powder Coat finish. This limited warranty shall begin on the date of material shipment.



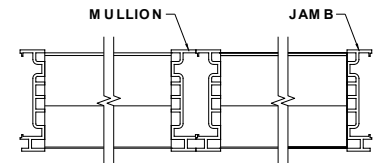
Discharge Coefficient

Intake $C_d = 0.32$ (Class 2)

AMCA certifies the coefficient class only

Data corrected to standard air density

Tested to AMCA fig. 5.5



PLAN VIEW

For a 4 Foot by 4 Foot Unit. Tested with mill finish and no screen.

- ⇒ Free area = 7.32 ft² (0.681 m²)
- ⇒ Percent free area = 45.8%
- ⇒ Free area velocity at the point of beginning water penetration (@0.01 oz. /ft² of free area based on a 15 minute interval test) = 1,169 FPM (5.94 m/s)
- ⇒ Maximum recommended air intake velocity = 969 FPM (4.9 m/s)
Air Volume @ 969 FPM free area velocity = 7,093 CFM (3.3 m³/s)
Pressure drop @ 969 FPM intake velocity = 0.15 in. H₂O (36.5 Pa)
- ⇒ Maximum recommended air exhaust velocity = 1,606 FPM (8.2 m/s)
Air Volume @ 1,606 FPM free area velocity = 11,755 CFM (5.5 m³/s)
Pressure Drop @ 1,606 FPM free area velocity = 0.50 in. H₂O (124.2 Pa)

SUGGESTED SPECIFICATIONS:

GENERAL: Furnish and install where indicated on the drawings C/S 5" (127 mm) **BLAST RESISTANT HORIZONTAL STORM RESISTANT LOUVER MODEL BLH-5709** as manufactured by Construction Specialties, Inc. Cranford, New Jersey. Complete details shall be submitted to the architect for approval prior to fabrication.

MATERIAL: Heads, sills, jamba and mullions to be one piece structural members of 6063-T6 alloy with integral caulking slot and retaining beads. Mullions shall be sliding interlock with integral internal drain(s). Heads to be one piece extrusion with gutter(s) designed to catch and direct water to jamb and mullion drains. Closed cell compression gaskets shall be provided between bottom of the mullion or jamb and the top of the sill to insure leak tight connections. Blades to be one piece extrusions with reinforcing bosses. All fasteners to be aluminum or stainless steel. All louvers to be furnished with 5/8" (15.87 mm) flattened expanded mesh, aluminum bird screen with a 0.055" (1.40 mm) thick extruded aluminum frame. Screens and screen frames to be standard mill finish.

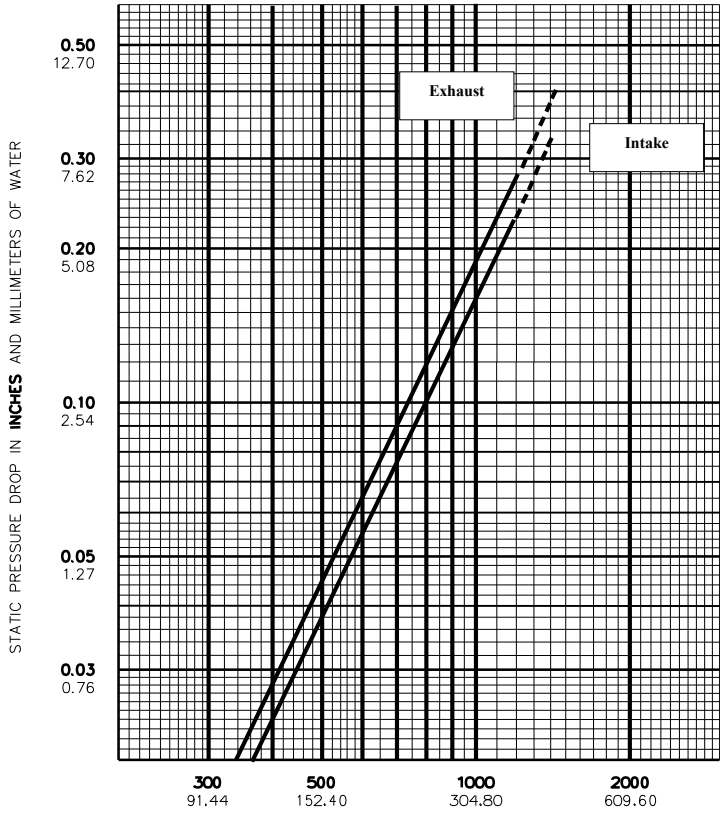
STRUCTURAL DESIGN: Structural supports shall be designed and furnished by the louver manufacturer to carry a wind load of not less than _____ psf (Pascals). (Note: If this paragraph is omitted or if the design wind load is not specified, the louvers will be manufactured in self-supporting units to a maximum of 5' (1524 mm) wide by 8' (2438 mm) high. Any additional structural supports required to adequately secure these units within the opening shall be the responsibility of others.

FREE AREA TABLE

FREE AREAS IN SQ. FEET AND SQ. METERS

Width in Inches and Meters

Height in Inches and Meters	18	24	30	36	42	48	54	60	66	72
	0.46	0.61	0.76	0.91	1.07	1.22	1.37	1.52	1.68	1.83
18	0.81	1.11	1.42	1.72	2.03	2.33	2.64	2.94	3.25	3.55
0.46	0.07	0.10	0.13	0.16	0.19	0.22	0.24	0.27	0.30	0.33
24	1.15	1.59	2.02	2.46	2.89	3.33	3.76	4.20	4.64	5.07
0.61	0.11	0.15	0.19	0.23	0.27	0.31	0.35	0.39	0.43	0.47
30	1.50	2.06	2.63	3.20	3.76	4.33	4.89	5.46	6.03	6.59
0.76	0.14	0.19	0.24	0.30	0.35	0.40	0.45	0.51	0.56	0.61
36	1.84	2.54	3.24	3.93	4.63	5.33	6.02	6.72	7.42	8.11
0.91	0.17	0.24	0.30	0.37	0.43	0.49	0.56	0.62	0.69	0.75
42	2.19	3.02	3.84	4.67	5.50	6.33	7.15	7.98	8.81	9.64
1.07	0.20	0.28	0.36	0.43	0.51	0.59	0.66	0.74	0.82	0.90
48	2.53	3.49	4.45	5.41	6.37	7.32	8.28	9.24	10.20	11.16
1.22	0.24	0.32	0.41	0.50	0.59	0.68	0.77	0.86	0.95	1.04
54	2.88	3.97	5.06	6.15	7.23	8.32	9.41	10.50	11.59	12.68
1.37	0.27	0.37	0.47	0.57	0.67	0.77	0.87	0.98	1.08	1.18
60	3.23	4.45	5.66	6.88	8.10	9.32	10.54	11.76	12.98	14.20
1.52	0.30	0.41	0.53	0.64	0.75	0.87	0.98	1.09	1.21	1.32
66	3.57	4.92	6.27	7.62	8.97	10.32	11.67	13.02	14.37	15.72
1.68	0.33	0.46	0.58	0.71	0.83	0.96	1.08	1.21	1.34	1.46
72	3.92	5.40	6.88	8.36	9.84	11.32	12.80	14.28	15.76	17.24
1.83	0.36	0.50	0.64	0.78	0.91	1.05	1.19	1.33	1.46	1.60
78	4.26	5.87	7.49	9.10	10.71	12.32	13.93	15.54	17.15	18.76
1.98	0.40	0.55	0.70	0.85	0.99	1.14	1.29	1.44	1.59	1.74
84	4.61	6.35	8.09	9.83	11.58	13.32	15.06	16.80	18.54	20.29
2.13	0.43	0.59	0.75	0.91	1.08	1.24	1.40	1.56	1.72	1.88
90	4.95	6.83	8.70	10.57	12.44	14.32	16.19	18.06	19.93	21.81
2.29	0.46	0.63	0.81	0.98	1.16	1.33	1.50	1.68	1.85	2.03
96	5.30	7.30	9.31	11.31	13.31	15.32	17.32	19.32	21.32	23.33
2.44	0.49	0.68	0.86	1.05	1.24	1.42	1.61	1.80	1.98	2.17
102	5.65	7.78	9.91	12.05	14.18	16.31	18.45	20.58	22.72	24.85
2.59	0.52	0.72	0.92	1.12	1.32	1.52	1.71	1.91	2.11	2.31
108	5.99	8.26	10.52	12.78	15.05	17.31	19.58	21.84	24.11	26.37
2.74	0.56	0.77	0.98	1.19	1.40	1.61	1.82	2.03	2.24	2.45
114	6.34	8.73	11.13	13.52	15.92	18.31	20.71	23.10	25.50	27.89
2.90	0.59	0.81	1.03	1.26	1.48	1.70	1.92	2.15	2.37	2.59
120	6.68	9.21	11.73	14.26	16.79	19.31	21.84	24.36	26.89	29.41
3.05	0.62	0.86	1.09	1.32	1.56	1.79	2.03	2.26	2.50	2.73
126	7.03	9.68	12.34	15.00	17.65	20.31	22.97	25.62	28.28	30.93
3.20	0.65	0.90	1.15	1.39	1.64	1.89	2.13	2.38	2.63	2.87
132	7.37	10.16	12.95	15.73	18.52	21.31	24.10	26.88	29.67	32.46
3.35	0.69	0.94	1.20	1.46	1.72	1.98	2.24	2.50	2.76	3.02
138	7.72	10.64	13.55	16.47	19.39	22.31	25.22	28.14	31.06	33.98
3.51	0.72	0.99	1.26	1.53	1.80	2.07	2.34	2.61	2.89	3.16
144	8.07	11.11	14.16	17.21	20.26	23.31	26.35	29.40	32.45	35.50
3.66	0.75	1.03	1.32	1.60	1.88	2.17	2.45	2.73	3.01	3.30



AIR VELOCITY IN FEET AND METERS PER MINUTE THROUGH FREE AREA
For a 48" x 48" sized louver tested to figure 5.5.
Data corrected to standard air density.

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Upper Numerals English Units/Lower Numerals Metric