United Enertech

(ENGINEERS)

SUBMITTAL DATA

Hurricane Louver w/ drainable blades and jamb gutter downspouts

6" Deep Hurricane Louver

MIAMI-DADE APPROVED

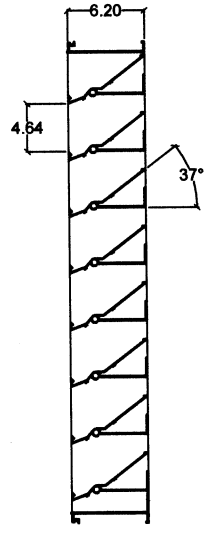
MIAMI-DADE COUNTY, FLORIDA NOTICE OF ACCEPTANCE #: 03-0106.20 (EXPIRES 01-17-06)

Application and Features

The Model DCFL-D-6 is a weather louver designed to protect the outside opening in building exterior walls. It is engineered for use in Dade County and its municipalities as well as other regions that use Dade County codes. These louvers may be used for exhaust or intake air. This model incorporated drainable blades and downspouts jamb gutter design for high performance. Engineers and designers can design with confidence since this product complies with the Miami-Dade County Building Code.

STANDARD CONSTRUCTION:

Maximum Design Pressure Rating
+150.0, -150.0 psf
Large Missile Impact Resistance



FRAME:

.125 Extruded Aluminum 6.20" deep.

BLADES:

.081 Extruded Aluminum Positioned on a 37° angle on approximately 4.64" centers.

BIRDSCREEN:

3/4" X .051 Flattened Aluminum in Removable Frame.

Screen is mounted on inside (rear) as looking from exterior of building.

FINISH:

mill aluminum (std.)

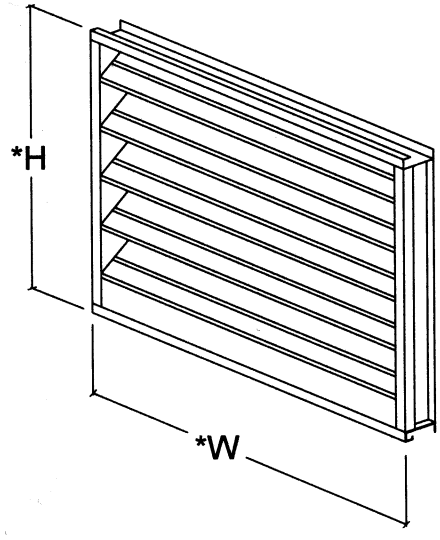
MINIMUM SIZE:

12"w x 16"h

MAXIMUM SIZE:

72"w x 72"h sections

Larger sizes made in multiple sections with vertical mullions.



OPTIONS (at additional cost)

- ☐ Filter Racks
- ☐ Insect screen
- ☐ Security Bars
- ☐ A variety of architectural finishes including:

  Baked Powder Polyester
  Baked Powder Fluropolymer 70%
  Baked Powder Clear Coat
  Anodizing: Clear or Integral Color

*W & H dimensions furnished approximately 1/4" under size.

Job Name:	☐ **MODEL DCFL-D-6**		
Location:			
Architect:	DRAWN BY: CLJ	DATE: 01-28-02	REV. DATE: 04-23-03
Engineer:	REV. NO. 3	APPROVED BY: BGT	DWG. NO.: F-9b
Contractor:			

SUGGESTED SPECIFICATION

Furnish and install louvers as hereinafter specified where shown on plans or as described in schedules. Louvers shall be stationary drainable type with drain gutters in each blade and downspouts in jambs and mullions. Stationary drainable blades shall be contained within a 6.20" frame. Louver components (heads, jambs, sills, blades & mullions) shall be factory assembled by the louver manufacturer. Louver sizes too large for shipping shall be built up by the contractor from factory assembled louver sections to provide overall sizes required.

Louvers shall be United Enertech #FL-D-6 6063T6 extruded aluminum construction as follows:
Frame: 6.20" deep, .125 nominal wall thickness.
Blades: .081 nominal wall thickness. Drainable Blades are positioned at 37-degree angle and spaced approximately 4.64 center to center.
Screen: 3/4" x .051" (19 x 1.3) expanded, flattened aluminum in removable frame.
Finish: Select finish specification from United Enertech Finishes Brochure.

Published louver performance data bearing the AMCA Certified Ratings Seal for Air Performance & Water Penetration must be submitted for approval prior to fabrication and must demonstrate pressure drop and water penetration equal to or less than the United Enertech model specified.

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.

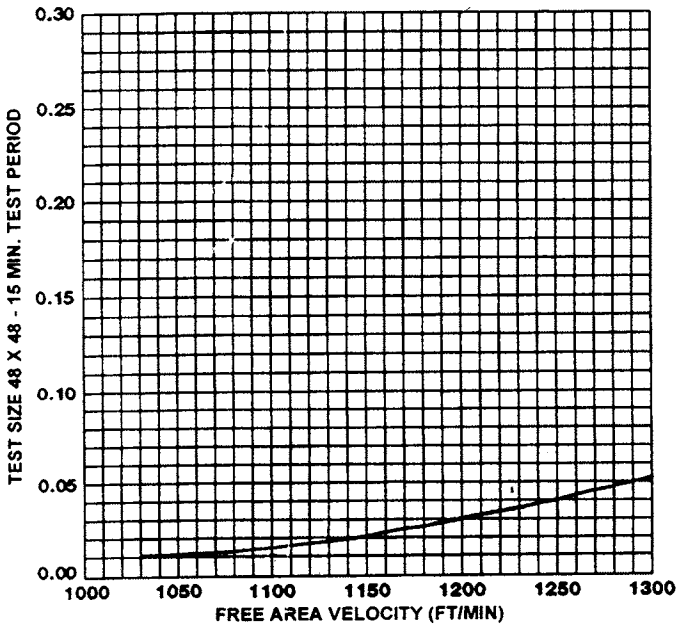
Beginning point of WATER PENETRATION for model FL-D-6 is

1032 fpm

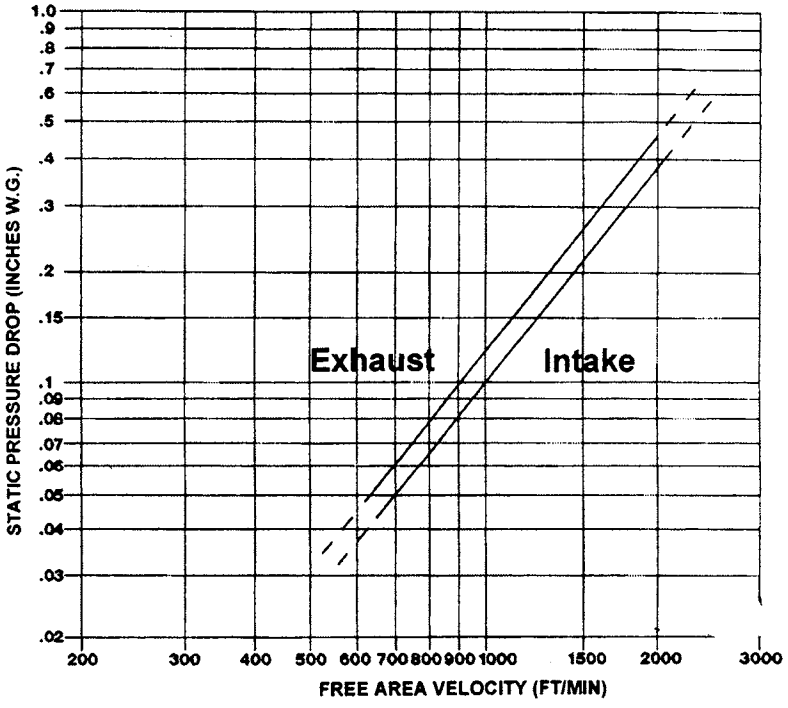
free area velocity at .01 oz. of water (penetration).

United Enertech Corporation certifies that the louver model shown hereon is licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with the 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.

Water Penetration Standard Air - .075 lb/ft^3



PRESSURE DROP



Based on STANDARD AIR - .075 lb. per cubic foot.
Ratings do not include the effects of screen.
15 minute test duration.

Louver Selection and Application

FREE AREA CHART (SQUARE FEET)

Louver Height Inches	Louver Width In Inches											Louver Height Inches
	12	18	24	30	36	42	48	54	60	66	72	
12	0.27	0.44	0.61	0.78	0.94	1.11	1.28	1.45	1.61	1.78	1.95	12
18	0.54	0.87	1.20	1.53	1.86	2.19	2.52	2.85	3.18	3.51	3.85	18
24	0.78	1.26	1.74	2.22	2.70	3.18	3.66	4.14	4.62	5.09	5.57	24
30	1.06	1.71	2.37	3.02	3.67	4.32	4.98	5.63	6.28	6.94	7.59	30
36	1.27	2.05	2.84	3.62	4.40	5.18	5.97	6.75	7.53	8.31	9.10	36
42	1.51	2.43	3.36	4.29	5.21	6.14	7.07	8.00	8.92	9.85	10.78	42
48	1.80	2.90	4.01	5.11	6.22	7.32	8.43	9.53	10.64	11.75	12.85	48
54	1.99	3.22	4.44	5.67	6.89	8.12	9.34	10.57	11.79	13.02	14.24	54
60	2.24	3.63	5.01	6.39	7.77	9.15	10.53	11.92	13.30	14.68	16.06	60
66	2.50	4.04	5.58	7.12	8.66	10.20	11.74	13.28	14.82	16.36	17.90	66
72	2.72	4.39	6.06	7.73	9.40	11.07	12.75	14.42	16.09	17.76	19.43	72
78	2.98	4.82	6.66	8.49	10.33	12.17	14.01	15.84	17.68	19.52	21.35	78
84	3.22	5.21	7.19	9.17	11.16	13.14	15.13	17.11	19.09	21.08	23.06	84
90	3.50	5.66	7.81	9.97	12.12	14.28	16.43	18.59	20.75	22.90	25.06	90
96	3.72	6.00	8.29	10.57	12.86	15.15	17.43	19.72	22.01	24.29	26.58	96
102	3.96	6.39	8.83	11.27	13.70	16.14	18.57	21.01	23.45	25.88	28.32	102
108	4.22	6.82	9.42	12.02	14.62	17.21	19.81	22.41	25.01	27.61	30.21	108
114	4.44	7.16	9.89	12.62	15.35	18.08	20.81	23.54	26.27	29.00	31.73	114
120	4.70	7.59	10.49	13.38	16.27	19.17	22.06	24.95	27.85	30.74	33.63	120

DCFL-D-6 Selection and Examples

Example 1:

Airflow given as 10,000 cfm - select louver size.

A. Determine louver free area by dividing airflow by free area velocity (do not exceed 1032 fpm on intake louver application).

10,000 cfm ÷ 1032 fpm = 9.69 ft.^{2}

Airflow — Free Area Velocity — Required Louver Free Area

B. Select a louver with at least the required louver free area from Free Area Chart above.

66"W x 42"H

Example 2:

Louver size given as 42 x 72 intake - determine maximum airflow.

A. Use Free Area Chart to determine

Free Area = 11.07 ft.^{2}

B. Multiply Free Area x Free Area Velocity (do not exceed 1032 fpm on intake louver applications).

11.07 ft^2 x 1032 fpm = 11,424 cfm

Free Area — Free Area Velocity — Maximum Airflow

United Enertech

MODEL DC-FL-D-6

MIAMI-DADE COUNTY HURRICANE STRUCTURAL TEST PERFORMANCE

SIZE TESTED: 146"w x72"h

DCBCCD PA 201-94 LARGE MISSILE IMPACT TEST:

MISSILE TYPE	VELOCITY IN FT/SEC (M/SEC)	IMPACTS
9 lb. Southern Yellow Pine 2"x4"x88-1/2"long	50 (15.24)	4

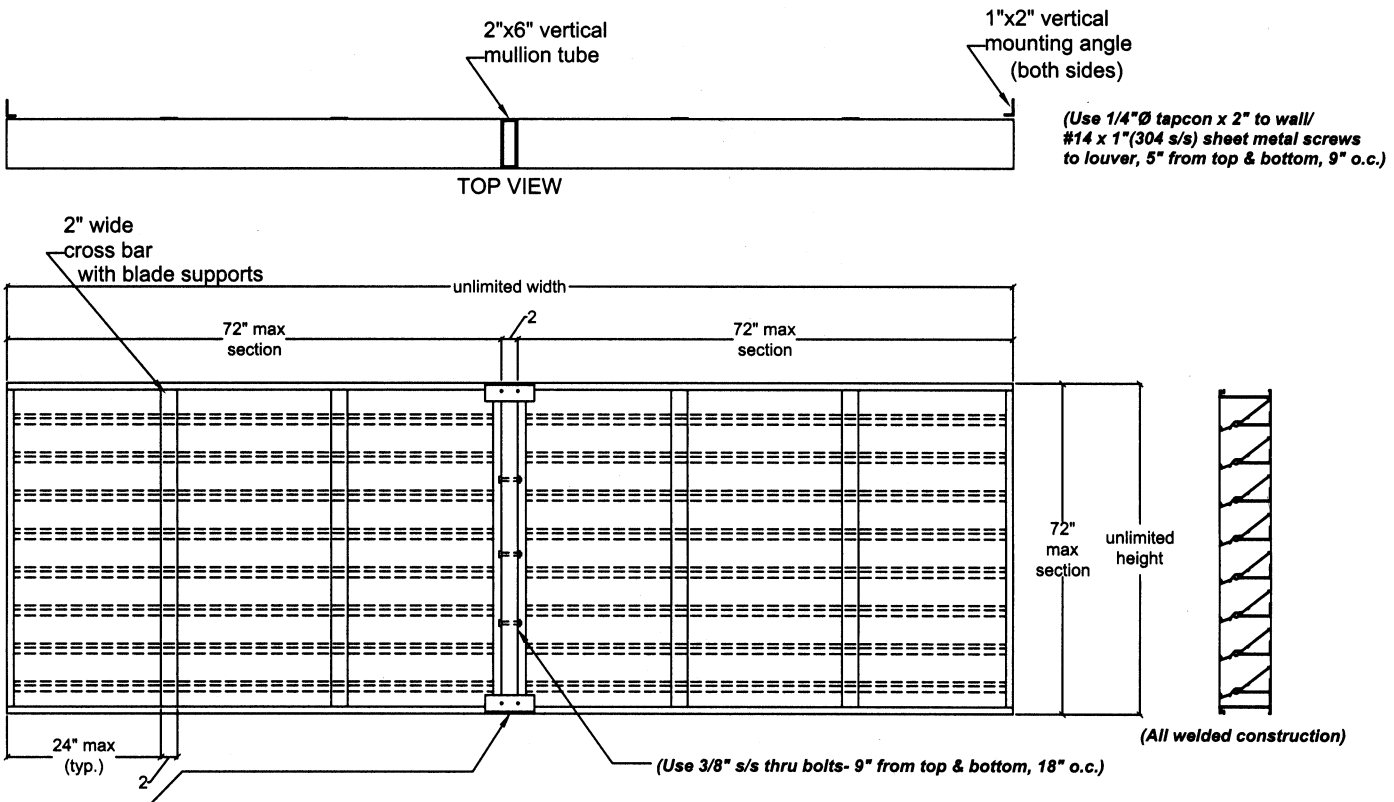
DCBCCD PA 202-94 UNIFORM STATIC AIR PRESSURE TEST:

LOAD IN PSF (kPA)	LOAD DURATION	LOUVER RECOVERY
+112.5 (+5.38)	30 seconds	100%
-112.5 (-5.38)	30 seconds	100%
+150 (+7.18)	30 seconds	100%
-150 (-7.18)	30 seconds	100%
+225 (+10.76)	30 seconds	100%
-225 (-10.76)	30 seconds	100%

DCBCCD PA 203-94 FATIGUE LOADING TEST:

CYCLES	LOAD IN PSF (kPA)	LOAD DURATION CYCLE	LOUVER RECOVERY
600	+75 (+3.59)	1 to 3 seconds	100%
600	-75 (-3.59)	1 to 3 seconds	100%
70	+90 (+4.31)	1 to 3 seconds	100%
70	-90 (-4.31)	1 to 3 seconds	100%
1	+195 (+9.33)	1 to 3 seconds	100%
1	-195 (-9.33)	1 to 3 seconds	100%

INSTALLATION DETAILS



Louvers up to 72" tall	Louvers up to 95" tall	Louvers up to 120" tall
2"x4"x1/4" angle 6" long @ ea. mullion top and bottom anchored with (2) 1/2"Ø power bolts	2"x4"x5/16" angle 6" long @ ea. mullion top and bottom anchored with (2) 1/2"Ø power bolts	2"x4"x5/16" angle 7" long @ ea. mullion top and bottom anchored with (2) 5/8"Ø power bolts

Notes: Cross-bar with blade supports placed as shown above
2"x6"x1/4" vertical mullion up to 95" ht.
(2)2"x6"x1/4" vertical mullion 96" to 110" ht.
4"x8"x1/4" vertical mullion 111" to 144" ht.