

MODEL FEMA-5WD

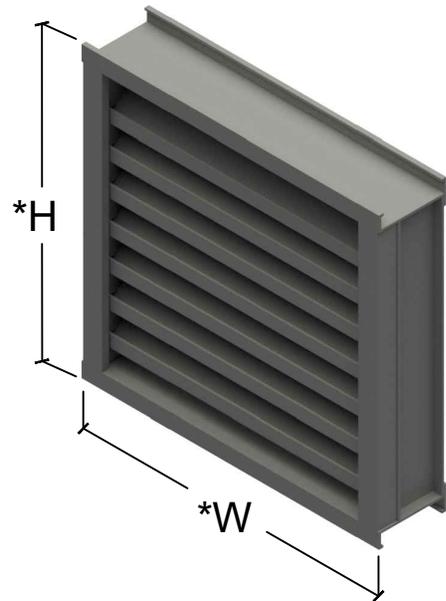
5" Deep Wind-driven Rain FEMA Louver/Grille

APPLICATION AND DESIGN

The **FEMA-5WD** is a heavy duty, 5.5" [140mm] deep aluminum louver/grille designed to protect exterior wall openings against severe circumstances on FEMA 320 or 361 compliant safe rooms and storm shelters. The FEMA-5WD can be installed inside exterior wall openings that require impact/wind load protection, and requires no additional louver to protect against water intrusion. Grille design consists of sight-proof, wind-driven rain blades which provide adequate free area and relatively low pressure drop. The FEMA-5WD provides the ultimate protection against high wind loads, wind-borne debris, and wind-driven rain, and is designed to comply with **FEMA 361-2021, and ICC 500-2023** storm shelter and safe room standards. Model FEMA-5WD is built to withstand wind loads of up to +/- 300 psf and has 27% free area.

STANDARD CONSTRUCTION:

- Frame:** 0.190" Extruded Aluminum, 5.50" Deep
- Blade:** 0.190" Extruded Aluminum placed on approximately 2.63" centers
- Birdscreen:** 0.50" x .050" x18 ga expanded stainless steel
Screen is mounted as standard on inside (rear) as looking from exterior of building.
- Finish:** Mill Aluminum (Std.)
- Minimum Size:** 12 x12
- Maximum Single Section:** 48"w x 96"h
- Maximum Multi-Section:** Unlimited width x 96"h



The Model FEMA-5WD complies with FEMA 361 and ICC 500 storm shelter and safe room standards.

SUBSTRATE (Select One)

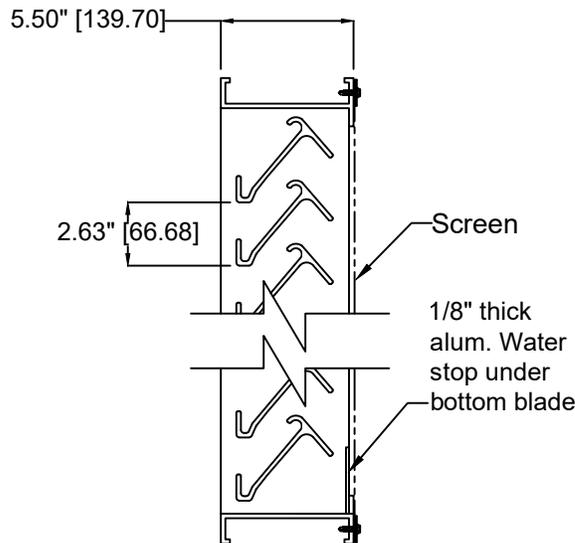
Concrete

Steel

See Installation Instructions for specific details on fasteners mounting hardware.

AVAILABLE FINISHES:

- Durable Polyester (AAMA 2604)
- 70% PVDF Fluoropolymer (AAMA 2605)
- Yellow Primer



Section View



UL File No. R27241

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

Due to continuing research, United Enertech reserves the right to change specifications without notice.

UnitedEnertech

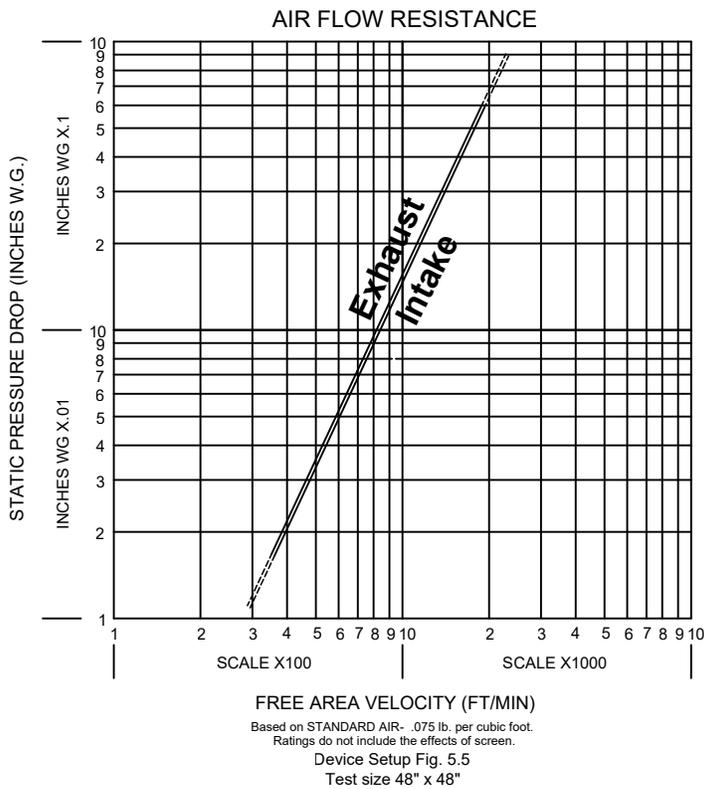
3005 South Hickory Street
Chattanooga, Tennessee 37407
Tel: (423) 698-7715
Fax: (423) 698-6629
www.unitedenertech.com

MODEL FEMA-5WD (Wind-driven Rain FEMA Louver/Grille)

DRAWN BY: CLJ	DATE: JULY 2025	REV. DATE:	REV. NO.:	DWG. NO.: A-20a
------------------	--------------------	------------	-----------	--------------------

PERFORMANCE DATA

SUGGESTED SPECIFICATION



Furnish and install louvers as hereinafter specified where shown on plans or as described in schedules. Louvers shall be stationary sight-proof, drainable type with drain gutters in each blade and downspouts in jambs. Stationary drainable blades shall be contained within a 5.50" frame. Louver components (heads, jambs, sills, blades, and 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. Louver design shall incorporate structural supports required to withstand a wind load of 300 lbs. Per sq. ft. , United Enertech Model FEMA-5WD

Beginning point of **WATER PENETRATION for MODEL FEMA-5WD** lies above **1250 fpm**

free area velocity at .01 oz. of water (penetration)
WATER PENETRATION ,OZ. PER SQ. FT. OF FREE AREA
(TEST SIZE: 48X48, 15 MINUTE DURATION)

Test size 1m x 1m(39"x39")core
41"w x 45"h Nominal (1.04m x 1.143m)

FEMA-5WD FREE AREA CHART (SQURE FEET)							
Louver Height (inches)	Louver Width (inches)						
	12	18	24	30	36	42	48
12	0.13	0.22	0.30	0.39	0.47	0.56	0.64
18	0.26	0.42	0.59	0.75	0.92	1.08	1.25
24	0.37	0.60	0.84	1.08	1.31	1.55	1.78
30	0.52	0.85	1.17	1.50	1.83	2.16	2.49
36	0.65	1.06	1.47	1.88	2.30	2.71	3.12
42	0.76	1.24	1.72	2.21	2.69	3.17	3.66
48	0.91	1.48	2.06	2.64	3.21	3.79	4.37
54	1.02	1.67	2.33	2.98	3.63	4.28	4.93
60	1.15	1.88	2.61	3.34	4.07	4.80	5.53
66	1.26	2.06	2.86	3.66	4.47	5.27	6.07
72	1.35	2.21	3.07	3.93	4.79	5.65	6.51
78	1.54	2.52	3.49	4.47	5.45	6.43	7.41
84	1.65	2.70	3.75	4.80	5.85	6.90	7.95
90	1.79	2.94	4.08	5.23	6.37	7.51	8.66
96	1.91	3.13	4.35	5.57	6.78	8.00	9.22

Wind Driven Rain Penetration Classes	
Class	Effectiveness
A	1 to 0.99
B	0.989 to 0.95
C	0.949 to 0.80
D	Below 0.8

Wind Velocity (mph)	Class	
	Intake	Exhaust
29	3	4
50	3	4

* Discharge loss coefficient is the theoretical air flow of an opening divided by the actual flow rate of a louver the same size.

Class	Discharge Loss Coefficient
1	0.4 and above
2	0.3 to 0.399
3	0.2 to 0.299
4	.0199 and below

(the higher the coefficient, the less resistance to airflow.)

75 mm/h (3in/h) Rainfall & 13 m/s (29 mph) Wind Velocity		
Ventilation Air Core Velocity m/s (fpm)	Water Penetration Effectiveness %	*Water Penetration Classification
0.40 (79)	99.6	A
0.97 (191)	99.1	A
1.14 (224)	98.0	B
1.75 (345)	93.6	C
2.30 (452)	89.4	C
2.78 (547)	84.0	C

*AMCA Classes for maximum allowable water penetrations

200 mm/h (8in/h) Rainfall & 32 m/s (50 mph) Wind Velocity		
Ventilation Air Core Velocity m/s (fpm)	Water Penetration Effectiveness %	*Water Penetration Classification
0.47 (93)	96.7	B
0.97 (190)	95.3	B
1.51 (298)	92.4	C
2.00 (393)	88.0	C
2.40 (473)	82.8	C

*AMCA Classes for maximum allowable water penetrations



United Enertech certifies that the FEMA-5WD 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 rating seal applies to Water Penetration, Air Performance, and Wind-Driven Rain ratings.