

FEMA-8
Internal Mount - 8" [203mm] Deep FEMA Grille

UL File No. R27241



APPLICATION AND DESIGN

The **FEMA-8** is a heavy duty steel grille designed to protect exterior wall openings against severe circumstances on FEMA 320 or 361 compliant safe rooms and storm shelters. Usually the FEMA-8 is mounted in front of wall louvers, but can be installed in front of exterior wall openings that require protection. Grille design consists of inverted "V" blades which provide high free area and relatively low pressure drop. The FEMA-8 provides the ultimate protection against high wind loads and wind-borne debris and is designed to comply with **FEMA 361 and ICC-500-2014** storm shelter and safe room standards. Model FEMA-8 is built to withstand wind loads of up to **300 psf**.

STANDARD CONSTRUCTION

Frame: 8" [203mm] deep x 0.25" [6.35mm] hot rolled steel, mounting flanges located at either Head/Sill, Jamb, or Both with welded construction. See page 2 for details on special flanges options.

Specify flange configuration

- Head / Sill Flange
- Jamb Flange
- Both Head/Sill/Jamb Flanges → Open Corners Closed Corners

Blades: 3" x 3" x .25" [76mm x 76mm x 6.35mm] hot rolled steel, welded in place

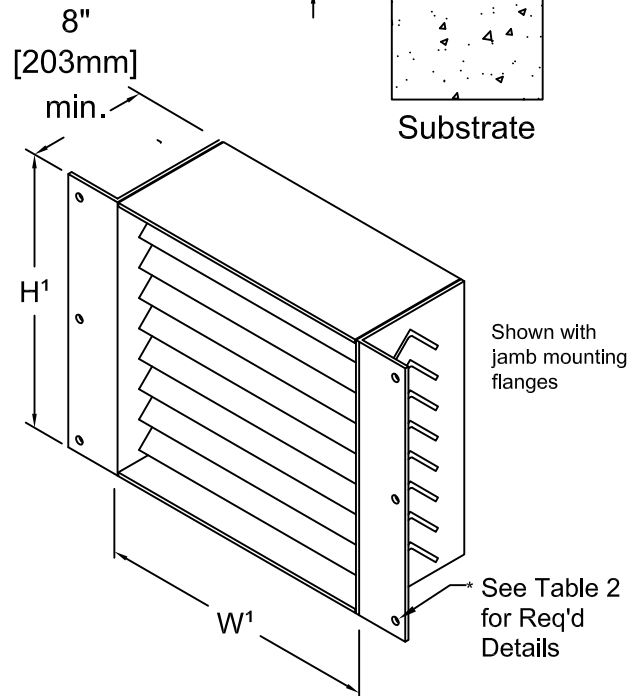
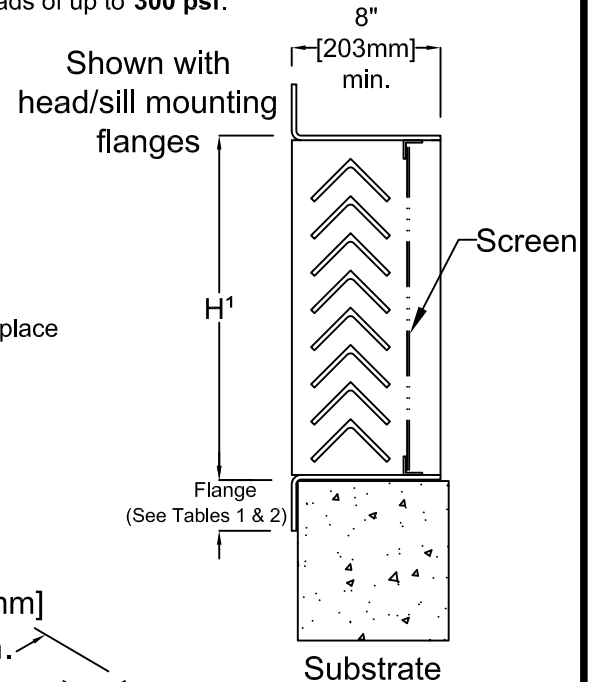
Screen: 0.50" [13mm] x 18 ga. galvanized steel

- Optional 304 stainless steel screen

Finish: Zinc Rich Primer (medium gray, top coat not required)

Minimum Size: 12" w x 12" h [305mm x 305mm]

Maximum Single Section Size: 60"w x 76" h [1524mm x 1930mm]



¹Dimensions are exact size. Opening in substrate is suggested to be 1/2" larger than exact size.

Substrate Fastener Hole Size (Jamb or Perimeter Attachment) *

- Concrete 1/4" [6.35mm] Tapcon 1/2" [13mm] Screw Anchor
- CMU 1/2" [13mm] Screw Anchor
- Steel 3/8" [9.55mm] Bolt
- Wood 1/4" [6.35mm] Lag Bolt

Substrate Fastener Hole Size (Head/Sill Attachment) *

- Concrete 1/4" [6.35mm] Tapcon 1/2" [13mm] Screw Anchor
- Steel 3/8" [9.55mm] Bolt
- Wood 1/4" [6.35mm] Lag Bolt

* See Installation Instructions for specific details on fasteners & flanges

AVAILABLE FINISHES:

- Powder Super durable polyester (2 coats) baked on at 410°F, 2.5 to 3.5 mils

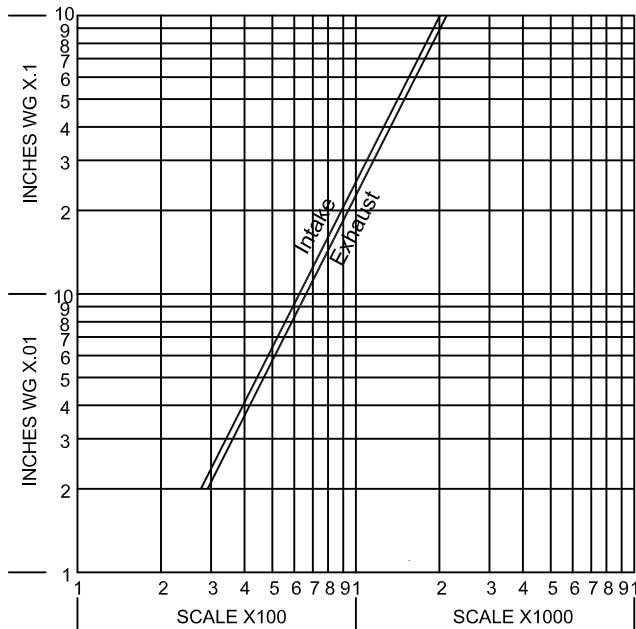
| | | | |
|-------------|--|--------------|------------|
| Job Name: | <input type="checkbox"/> MODEL: FEMA-8 (Internal Mount) | | |
| Location: | DRAWN BY: | DATE: | REV. DATE: |
| Architect: | SDC | 9-15-11 | 2-12-18 |
| Engineer: | REV. NO. | APPROVED BY: | DWG. NO.: |
| Contractor: | 13 | CLJ | A-19h |

SUGGESTED SPECIFICATION

FEMA-8 PERFORMANCE DATA

Finish and install FEMA-8 Grilles as hereinafter specified where shown on plans or as described in schedules. These units shall ship as a completed assembly. The units are to be installed via flanges located at the (**Head/Sill** or **Jamb** specifier select one). Grille frame and blades are to be a minimum of 0.25" [6.35mm] steel. Units are to have 18 ga steel expanded screen located behind the blades for added protection. The units are to be installed (**internal** or **external**, specifier select one) to the wall. The units are to ship from the factory with (specifier select type of finish desired) finish. Grilles shall be by United Enertech, model FEMA-8.

PRESSURE DROP



VELOCITY THROUGH FREE AREA

Based on STANDARD AIR- 0.075 lb. per cubic foot. Performance and free area does not include the effects of any additional louver installed with the FEMA-8 Grille.

FEMA-8 FREE AREA IN SQ. FT.

| Louver Height Inches | Width - Inches | | | | | | | | | | | | | | | | | | Louver Height Inches | |
|----------------------|----------------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------------------|-----|
| | 12 | 18 | 24 | 30 | 36 | 42 | 48 | 54 | 60 | 66 | 72 | 76 | 84 | 90 | 96 | 102 | 108 | 114 | | 120 |
| 12 | 0.44 | 0.67 | 0.90 | 1.13 | 1.36 | 1.59 | 1.82 | 2.05 | 2.28 | 2.52 | 2.75 | 2.90 | 3.21 | 3.44 | 3.67 | 3.90 | 4.13 | 4.36 | 4.59 | 12 |
| 18 | 0.68 | 1.04 | 1.40 | 1.75 | 2.11 | 2.47 | 2.82 | 3.18 | 3.54 | 3.89 | 4.25 | 4.49 | 4.96 | 5.32 | 5.68 | 6.03 | 6.39 | 6.75 | 7.10 | 18 |
| 24 | 0.92 | 1.40 | 1.88 | 2.37 | 2.85 | 3.33 | 3.81 | 4.29 | 4.77 | 5.25 | 5.73 | 6.06 | 6.70 | 7.18 | 7.66 | 8.14 | 8.62 | 9.10 | 9.58 | 24 |
| 30 | 1.25 | 1.89 | 2.54 | 3.19 | 3.84 | 4.49 | 5.14 | 5.79 | 6.44 | 7.09 | 7.74 | 8.17 | 9.04 | 9.69 | 10.34 | 10.99 | 11.64 | 12.29 | 12.94 | 30 |
| 36 | 1.49 | 2.26 | 3.04 | 3.81 | 4.59 | 5.36 | 6.14 | 6.91 | 7.69 | 8.46 | 9.24 | 9.75 | 10.79 | 11.56 | 12.34 | 13.11 | 13.89 | 14.66 | 15.44 | 36 |
| 42 | 1.73 | 2.63 | 3.53 | 4.43 | 5.33 | 6.23 | 7.13 | 8.03 | 8.93 | 9.83 | 10.73 | 11.34 | 12.54 | 13.44 | 14.34 | 15.24 | 16.14 | 17.04 | 17.94 | 42 |
| 48 | 1.97 | 2.99 | 4.02 | 5.05 | 6.07 | 7.10 | 8.12 | 9.15 | 10.18 | 11.20 | 12.23 | 12.91 | 14.28 | 15.31 | 16.33 | 17.36 | 18.39 | 19.41 | 20.44 | 48 |
| 54 | 2.21 | 3.36 | 4.51 | 5.66 | 6.82 | 7.97 | 9.12 | 10.27 | 11.42 | 12.58 | 13.73 | 14.50 | 16.03 | 17.19 | 18.34 | 19.49 | 20.64 | 21.79 | 22.95 | 54 |
| 60 | 2.53 | 3.85 | 5.17 | 6.49 | 7.81 | 9.12 | 10.44 | 11.76 | 13.08 | 14.40 | 15.72 | 16.60 | 18.36 | 19.68 | 21.00 | 22.32 | 23.64 | 24.95 | 26.27 | 60 |
| 66 | 2.77 | 4.21 | 5.66 | 7.10 | 8.55 | 9.99 | 11.44 | 12.88 | 14.33 | 15.77 | 17.21 | 18.18 | 20.10 | 21.55 | 22.99 | 24.44 | 25.88 | 27.33 | 28.77 | 66 |
| 72 | 3.01 | 4.58 | 6.15 | 7.72 | 9.29 | 10.86 | 12.43 | 14.00 | 15.57 | 17.14 | 18.71 | 19.76 | 21.85 | 23.43 | 25.00 | 26.57 | 28.14 | 29.71 | 31.28 | 72 |
| 76 | 3.25 | 4.95 | 6.64 | 8.34 | 10.03 | 11.73 | 13.43 | 15.12 | 16.82 | 18.51 | 20.21 | 21.34 | 23.60 | 25.30 | 26.99 | 28.69 | 30.38 | 32.08 | 33.78 | 78 |
| 84 | 3.49 | 5.31 | 7.13 | 8.96 | 10.78 | 12.60 | 14.42 | 16.24 | 18.06 | 19.89 | 21.71 | 22.92 | n/a | n/a | n/a | n/a | n/a | n/a | n/a | 84 |
| 90 | 3.73 | 5.68 | 7.63 | 9.57 | 11.52 | 13.47 | 15.41 | 17.36 | 19.31 | 21.26 | 23.20 | 24.50 | n/a | n/a | n/a | n/a | n/a | n/a | n/a | 90 |
| 96 | 4.05 | 6.17 | 8.28 | 10.39 | 12.51 | 14.62 | 16.74 | 18.85 | 20.97 | 23.08 | 25.19 | 26.60 | n/a | n/a | n/a | n/a | n/a | n/a | n/a | 96 |
| 102 | 4.29 | 6.53 | 8.77 | 11.01 | 13.25 | 15.49 | 17.73 | 19.97 | 22.21 | 24.45 | 26.69 | 28.19 | n/a | n/a | n/a | n/a | n/a | n/a | n/a | 102 |
| 108 | 4.53 | 6.90 | 9.26 | 11.63 | 14.00 | 16.36 | 18.73 | 21.09 | 23.46 | 25.82 | 28.19 | 29.76 | n/a | n/a | n/a | n/a | n/a | n/a | n/a | 108 |
| 114 | 4.77 | 7.26 | 9.75 | 12.24 | 14.73 | 17.23 | 19.72 | 22.21 | 24.70 | 27.19 | 29.68 | 31.34 | n/a | n/a | n/a | n/a | n/a | n/a | n/a | 114 |
| 120 | 5.02 | 7.63 | 10.25 | 12.87 | 15.48 | 18.10 | 20.72 | 23.33 | 25.95 | 28.57 | 31.18 | 32.93 | n/a | n/a | n/a | n/a | n/a | n/a | n/a | 120 |