

Introduction: AFR

Krueger's AFR provides a versatile, architectural solution for displacement ventilation systems. Installed in walls or stair risers, the face snaps in and sits flush to the surrounding surface, seamlessly integrating into the space. Units can even be integrated into custom furnishings, such as desks or cabinets.

MODEL

AFR - Flat-faced, Recessed, Low-Velocity Supply Unit

FEATURES

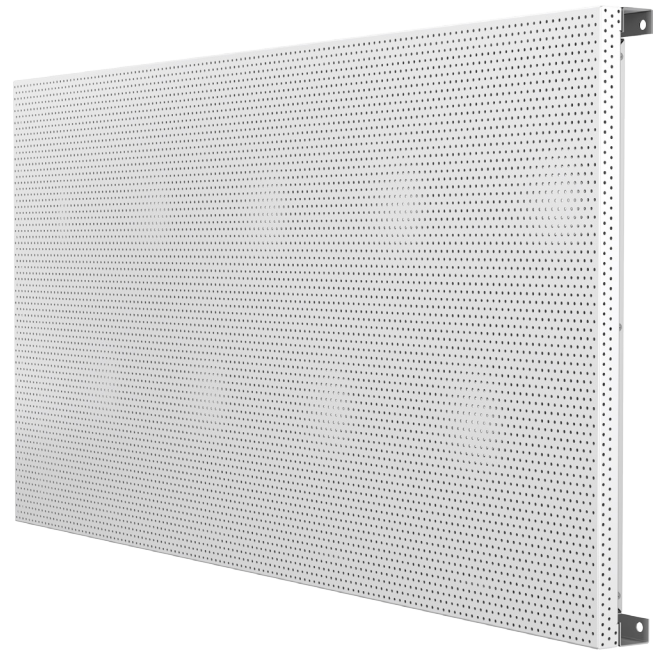
- 20 gage front panel
- 10% free area perforated face and baffle
- Horizontal low velocity discharge at floor level
- Detachable panel enables cleaning of the unit and duct work
- Spring clips included
- Sizes available in 1" increments
- Min/Max Width: 8" - 48"
- Min/Max Height: 4" - 24"

OPTIONS

- 16 gage front panel
- Mounting rails (long edge only)

FINISHES

- Standard is Polyester Painted White (RAL 9010)
- Custom colors available



AFR isometric view (top),
side and face views (bottom)

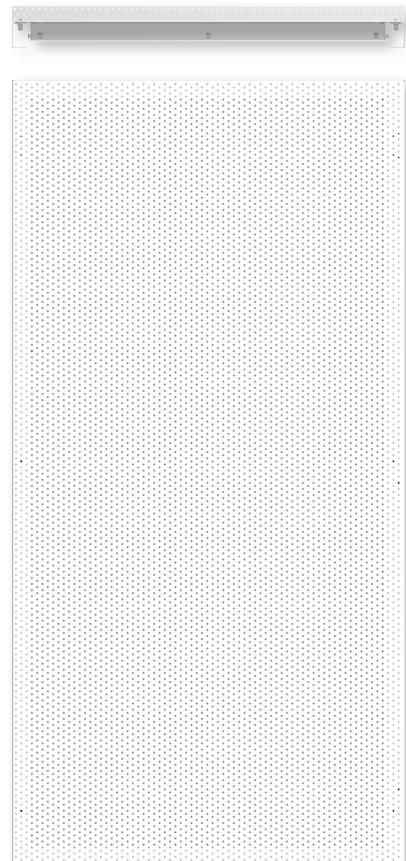
DISPLACEMENT VENTILATION



AFR Wall Application



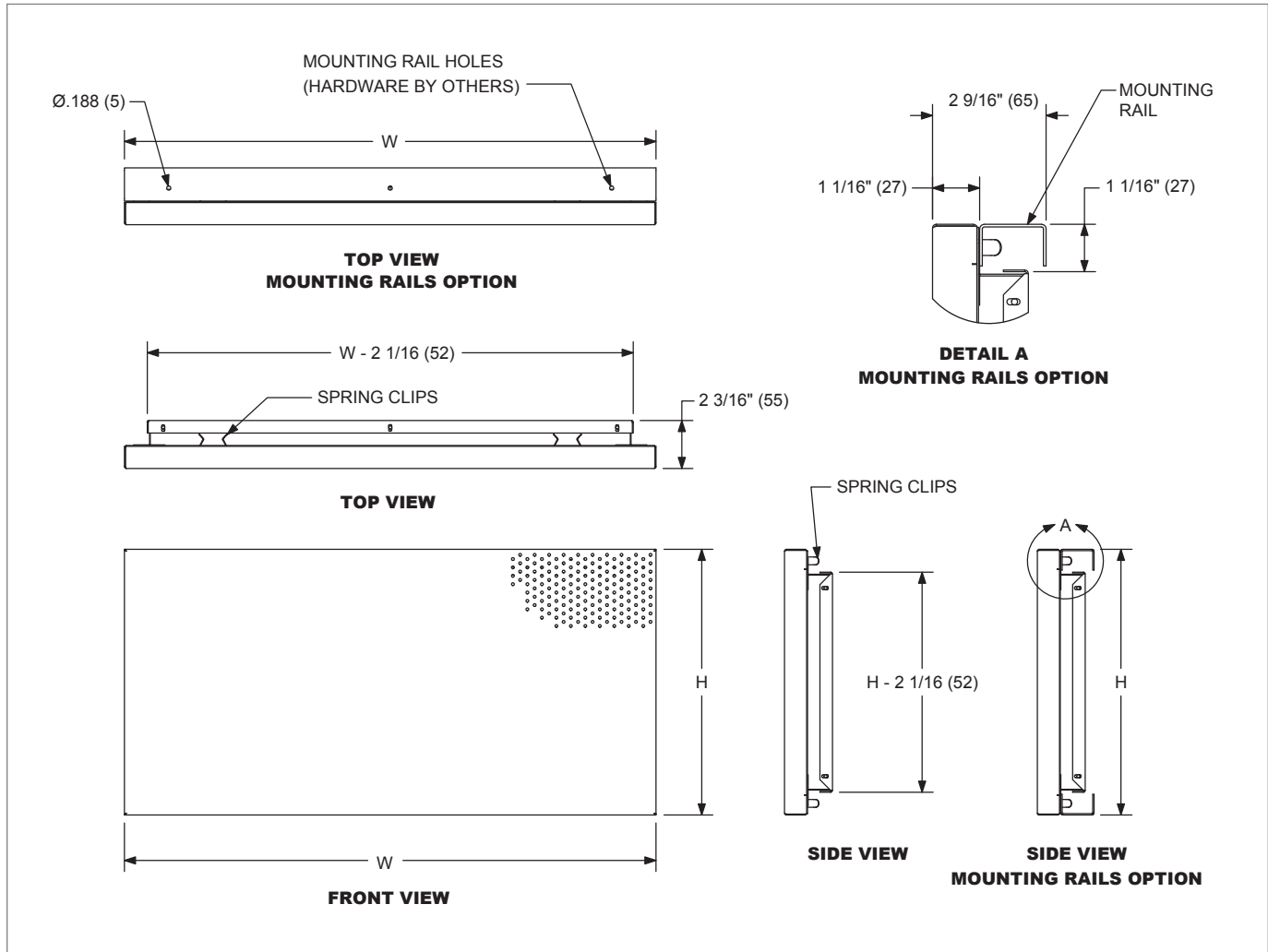
AFR Stair Riser Application



A
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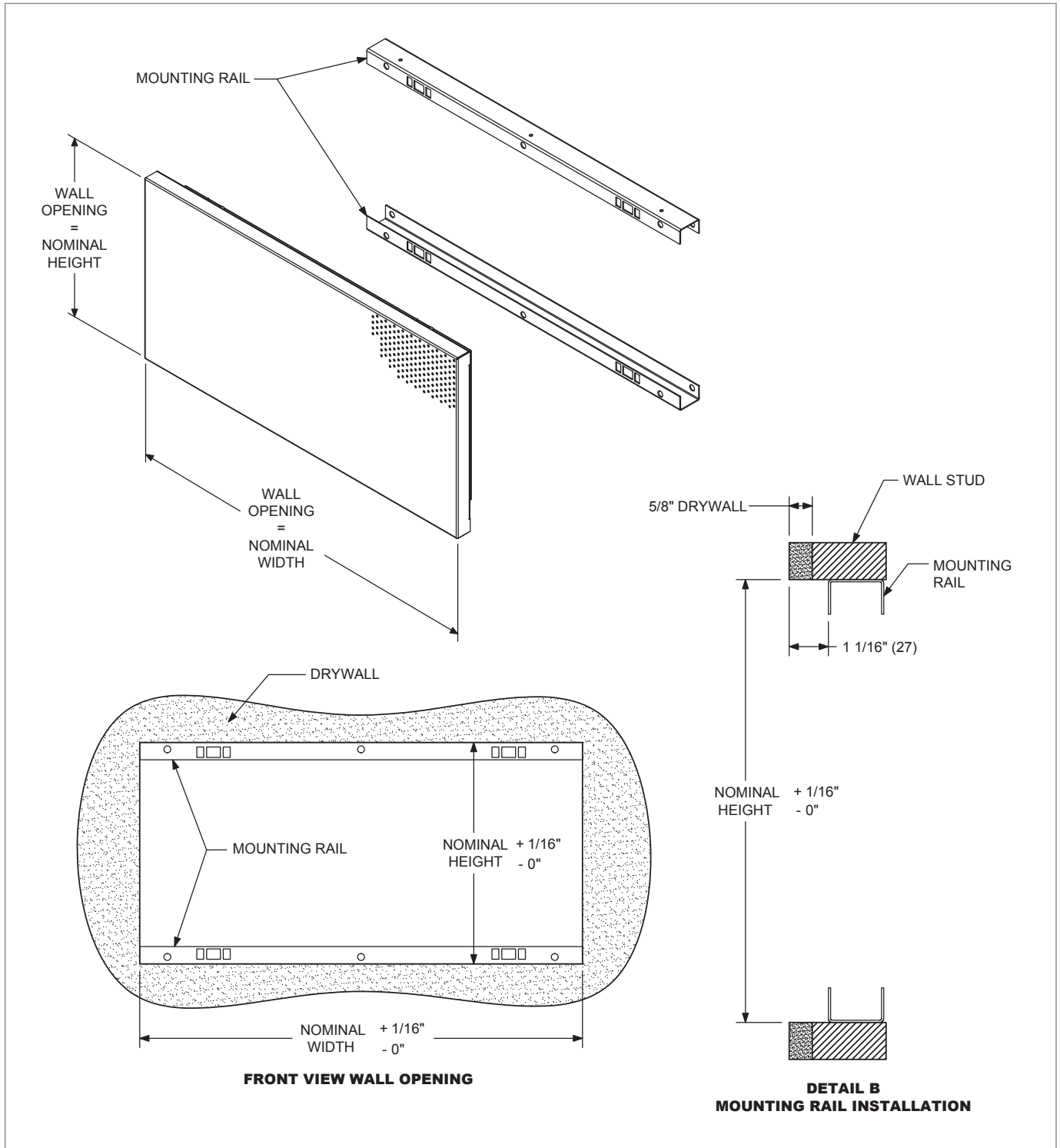
AFR Dimensional Information

AFR FRONT, TOP, AND SIDE VIEWS



Width (W) = 8" - 48" in 1" increments.
Height (H) = 4" - 24" in 1" increments.

DISPLACEMENT VENTILATION

AFR Installation
AFR INSTALLATION VIEWS


DISPLACEMENT VENTILATION

INSTALLATION

- Opening in wall shall be same dimensions as unit width and height.
- Install mounting rails in opening using mounting rail holes (fasteners by others); locate front flange 1 1/16" from face of wall. (See detail B.)
- Insert unit into wall opening such that the clips engage the mounting rails.

AFR Performance Data

IP DATA: AFR SERIES

DISPLACEMENT VENTILATION

Unit Size	IP Data						NC
	Neck Vel	Air Flow	Pt	Ps	Near T ₅₀ @ 4 ft	T ₅₀ @ Floor	
	FPM	CFM	"WG	"WG	ft	ft	
18" x 4"	20	10	0.00	0.00	2	5	-
	30	15	0.00	0.00	4	5	-
	40	20	0.00	0.00	9	12	-
	50	25	0.00	0.00	11	14	-
24" x 4"	20	13	0.00	0.00	2	4	-
	30	20	0.00	0.00	3	4	-
	40	27	0.00	0.00	7	9	-
	50	33	0.00	0.00	11	13	-
30" x 4"	20	17	0.00	0.00	3	5	-
	30	25	0.00	0.00	4	5	-
	40	33	0.00	0.00	9	12	-
	50	42	0.00	0.00	12	14	-
36" x 4"	20	20	0.00	0.00	3	5	-
	30	30	0.00	0.00	4	6	-
	40	40	0.00	0.00	9	12	-
	50	50	0.01	0.00	12	14	-
40" x 4"	20	22	0.00	0.00	3	5	-
	30	33	0.00	0.00	4	6	-
	40	44	0.00	0.00	9	12	-
	50	56	0.01	0.01	12	14	10
48" x 4"	20	27	0.00	0.00	3	5	-
	30	40	0.00	0.00	5	6	-
	40	53	0.00	0.00	9	12	-
	50	67	0.01	0.01	12	14	10
18" x 6"	20	15	0.00	0.00	3	5	-
	30	23	0.00	0.00	4	5	-
	40	30	0.00	0.00	9	12	-
	50	38	0.00	0.00	12	14	-
24" x 6"	20	20	0.00	0.00	3	5	-
	30	30	0.00	0.00	4	6	-
	40	40	0.00	0.00	9	12	-
	50	50	0.01	0.00	12	14	-
30" x 6"	20	25	0.00	0.00	3	5	-
	30	38	0.00	0.00	5	6	-
	40	50	0.00	0.00	9	12	-
	50	63	0.01	0.01	12	14	10
36" x 6"	20	30	0.00	0.00	3	5	-
	30	45	0.00	0.00	5	6	-
	40	60	0.01	0.00	9	12	-
	50	75	0.01	0.01	12	14	10
40" x 6"	20	33	0.00	0.00	3	5	-
	30	50	0.01	0.01	5	6	10
	40	67	0.01	0.01	9	12	10
	50	83	0.02	0.01	12	14	11
48" x 6"	20	40	0.01	0.00	3	6	-
	30	60	0.01	0.01	5	7	10
	40	80	0.01	0.01	9	12	10
	50	100	0.02	0.02	12	15	11
18" x 8"	20	20	0.00	0.00	3	5	-
	30	30	0.00	0.00	4	6	-
	40	40	0.00	0.00	9	12	-
	50	50	0.01	0.00	12	14	-

Unit Size	IP Data						NC
	Neck Vel	Air Flow	Pt	Ps	Near T ₅₀ @ 4 ft	T ₅₀ @ Floor	
	FPM	CFM	"WG	"WG	ft	ft	
24" x 8"	20	27	0.00	0.00	3	6	-
	30	40	0.00	0.00	5	6	-
	40	53	0.00	0.00	9	12	-
	50	67	0.01	0.01	11	13	10
	50	67	0.01	0.01	11	13	10
30" x 8"	20	33	0.00	0.00	3	6	-
	30	50	0.00	0.00	6	8	-
	40	67	0.00	0.00	12	16	-
	50	83	0.02	0.01	14	17	10
36" x 8"	20	40	0.01	0.00	3	6	-
	30	60	0.01	0.01	5	7	10
	40	80	0.01	0.01	9	12	10
	50	100	0.02	0.02	12	15	11
	50	100	0.02	0.02	12	15	11
40" x 8"	20	44	0.01	0.00	3	6	-
	30	67	0.01	0.01	6	7	10
	40	89	0.02	0.01	9	12	11
	50	111	0.03	0.02	12	15	12
	50	111	0.03	0.02	12	15	12
48" x 8"	20	53	0.01	0.00	3	6	-
	30	80	0.02	0.01	6	8	11
	40	107	0.02	0.02	9	13	11
	50	133	0.04	0.02	13	15	13
	50	133	0.04	0.02	13	15	13
12" x 12"	20	20	0.00	0.00	3	5	-
	30	30	0.00	0.00	4	6	-
	40	40	0.00	0.00	9	12	-
	50	50	0.01	0.00	12	14	-
18" x 12"	20	30	0.00	0.00	3	5	-
	30	45	0.00	0.00	5	6	-
	40	60	0.01	0.00	9	12	-
	50	75	0.01	0.01	12	14	10
24" x 12"	20	40	0.01	0.00	3	6	-
	30	60	0.01	0.01	5	7	10
	40	80	0.01	0.01	9	12	10
	50	100	0.02	0.02	12	15	11
48" x 12"	20	80	0.02	0.01	3	6	11
	30	120	0.04	0.03	7	9	13
	40	160	0.05	0.04	9	12	14
	50	200	0.06	0.04	13	15	15
	50	200	0.06	0.04	13	15	15
24" x 24"	20	80	0.02	0.01	3	6	11
	30	120	0.04	0.03	7	9	13
	40	160	0.05	0.04	10	13	14
	50	200	0.06	0.04	13	16	15
	50	200	0.06	0.04	13	16	15
30" x 24"	20	100	0.03	0.01	3	7	12
	30	150	0.05	0.04	8	11	14
	40	200	0.06	0.05	10	14	15
	50	250	0.08	0.05	14	16	17
	50	250	0.08	0.05	14	16	17
36" x 24"	20	120	0.03	0.02	4	7	12
	30	180	0.06	0.05	9	12	15
	40	240	0.08	0.06	10	14	17
	50	300	0.10	0.06	14	17	20
	50	300	0.10	0.06	14	17	20
48" x 24"	20	160	0.05	0.02	4	8	14
	30	240	0.09	0.07	11	15	19
	40	320	0.11	0.09	11	15	23
	50	400	0.13	0.09	16	18	25
	50	400	0.13	0.09	16	18	25

NOTES: Throw values are given for terminal velocities of 50 fpm (0.25 m/s). Throw values are given for -6°F (-3°C) ΔT conditions. N.C. values are based on Octave Band 2 - 7 sound power levels minus a room absorption of 4dB. Dash in space denotes a NC value of less than 10. Data was obtained from tests conducted in accordance with ANSI / ASHRAE Standard 70-1991.

AFR

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AFR Suggested Specification & Configuration

AFR

Furnish and install Krueger by Halton AFR displacement diffuser as indicated on the drawings and diffuser schedule. The AFR is a flat-faced low velocity displacement diffuser suitable for flush mount installation into a wall or stair riser. The front panel shall utilize 10% free area perforated material with a well-balanced appearance and enhancement to performance. The diffuser includes a secondary equalization baffle for consistent airflow. The AFR is provided with spring mounting clips which interface with 16 gauge mill finish mounting rails. Mounting rails are installed in the hole opening at a depth to allow for flush mounting with the finished wall surface. The face shall be made of powder coated galvanized sheet metal, 20 gauge or 16 gauge. Standard finish is #44 white.

PERFORMANCE

Unit performance shall be tested in accordance with the following standards: Air flow rate, EN-ISO 5167-1; Pressure Difference, EN-ISO 5135; Sound Power Level, EN-ISO 7235.

1. **MODEL: (XXX)**
AFR - Flat-faced, Recessed, Low-Velocity Supply Unit
2. **WIDTH: (XX)**
8" - 48" in 1" increments
3. **HEIGHT: (XX)**
4" - 24" in 1" increments
4. **MATERIAL: (XX)**
GS - Steel
5. **FRONT PANEL THICKNESS: (XX)**
20 - 20 Gage (Standard)
16 - 16 Gage
6. **MOUNTING RAILS: (XX)**
00 - No Mounting Rails
01 - Mounting Rails
7. **FINISH: (XX)**
07 - Custom
35 - Black
44 - British White