

Introduction: AFA

The Krueger by Halton AFA is ideal for low velocity wall or ceiling applications. Its versatile design makes it the most robust 1, 2, or 3 way solution to any application on the market.

MODEL

AFA - Rectangular, Low-Velocity Supply Unit

FEATURES

- 20 gage front panel.
- Horizontal low velocity discharge at floor level or vertical discharge from ceiling.
- Can be installed flush to the wall or to the ceiling.
- Detachable front panel and removable baffle enables cleaning of the unit and duct work.
- Round duct connection with integral gasket at the top, bottom, side, or back.

OPTIONS

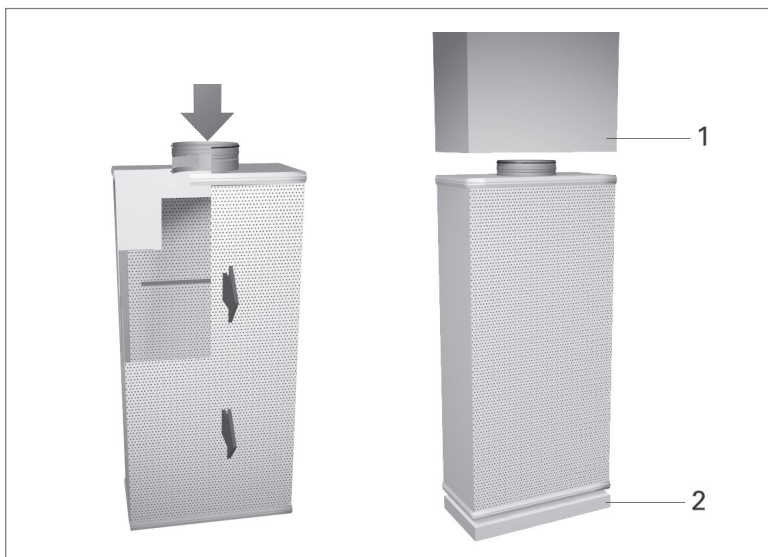
- Optional duct connection locations.
- 16 gage front panel.
- Duct cover (solid or perforated).
- Installation base (2", 4", 6").
- Vinyl trim in white or black.
- Metal trim (painted to match).

FINISHES

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



AFA Application



FUNCTION

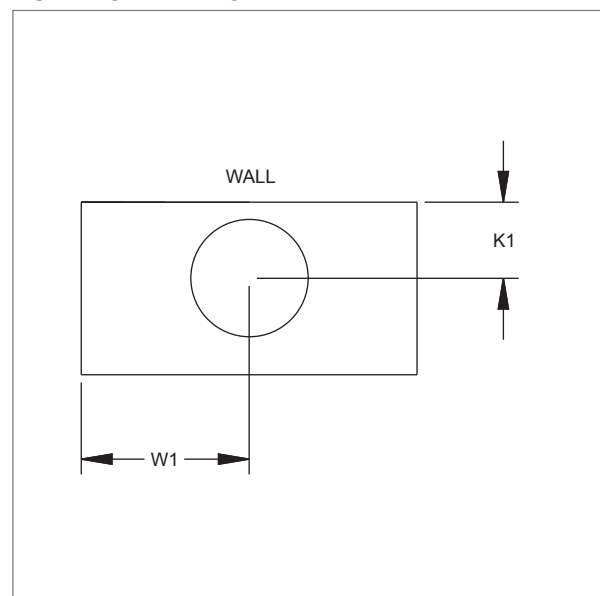
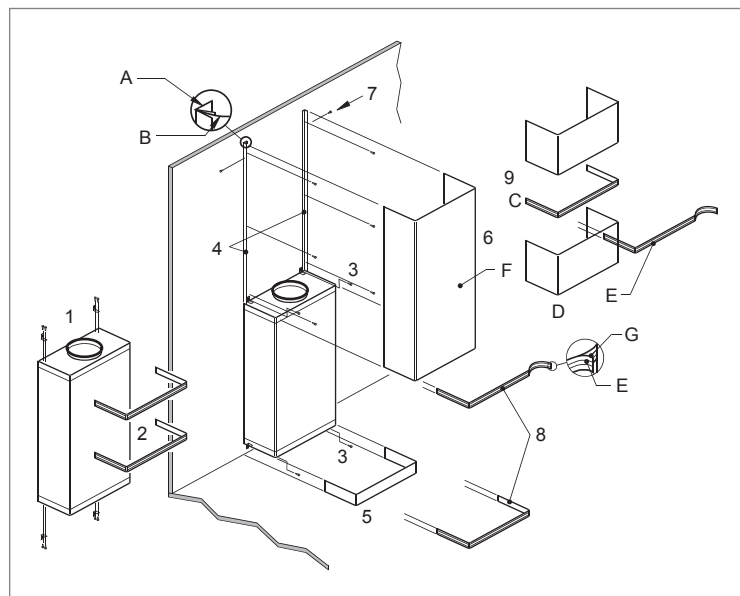
Air is discharged into the space through the front panel of the unit, normally at a slightly lower temperature than setpoint.

The supply air flows at floor level and gradually pervades through the occupied space before rising due to the convection of warm surfaces.

The low velocity flow pattern is directed perpendicular to the face.

NOTES: The flow pattern data has been defined for a floor installation. (1) Duct cover is for covering the duct work and is optional. (2) Installation base is used to raise the unit off the floor and is also optional.

DUCTINSTALLATION



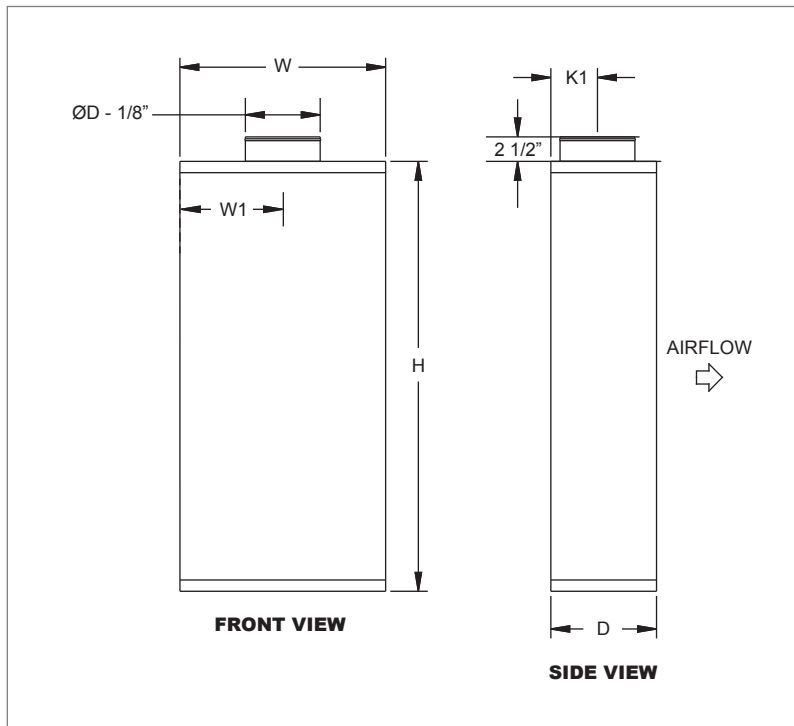
NOTE: Refer to table on next page for dimensions.

Perform the installation in order.

1. Fix mounting brackets (4 places) to low velocity unit.
2. Remove trim (E) from unit.
3. Locate unit against wall and secure through mounting brackets.
4. Fix duct cover support brackets (A) to wall between unit and ceiling.
5. Position base against lower flange of the unit.
6. After installation of duct work, locate duct cover as follows: Locate duct cover section (F) on top flange (G) of unit and firmly push into support brackets fixed to wall (B).
7. Secure duct cover with screws through cover into support brackets.
8. Re-fit trim between duct cover and unit, and between base and unit by bending trim back on itself (E) and pressing bead into groove in flange (G).
9. When multiple sections of duct cover are used (D), an aluminium coupling flange (C) is needed.

AFA Dimensional Information

AFA FRONT AND SIDE VIEWS

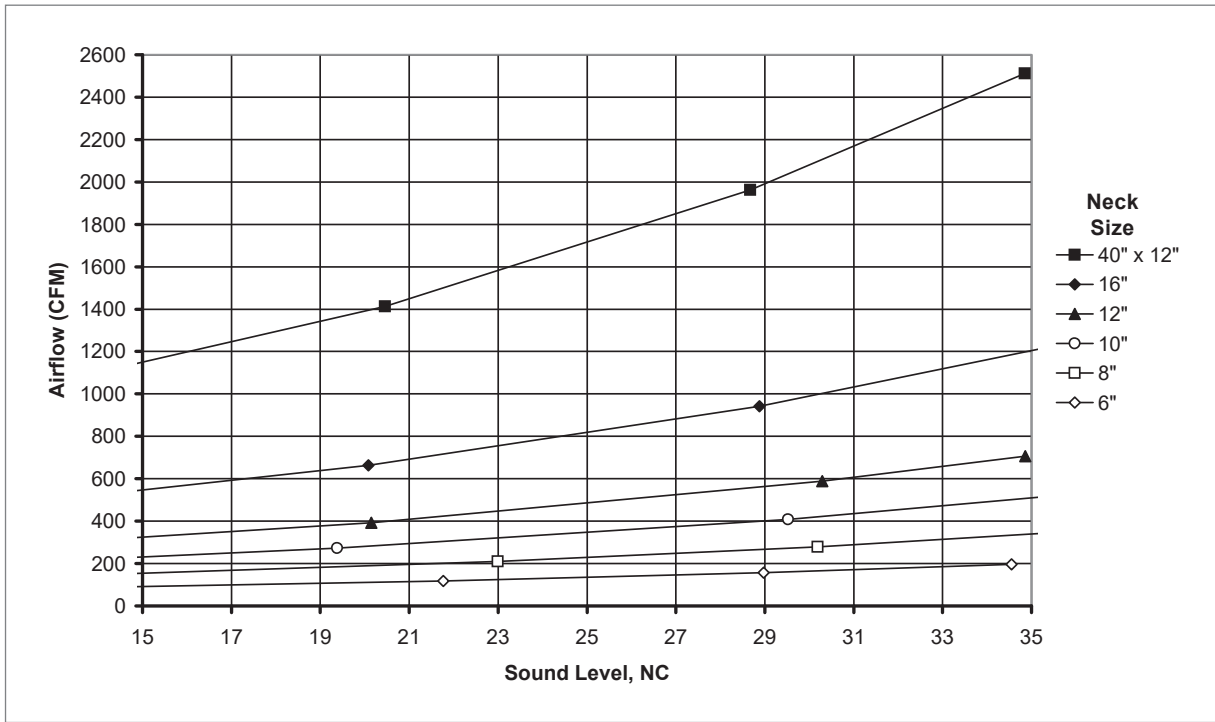


AFA DIMENSIONAL REFERENCES

AFA Size (Nominal W x H)	W	H	D	W1	K1	ØD
22"x21"	21 5/8"	21 3/8"	9 3/4"	10 4/5"	4 1/8"	6"
22"x45"	21 5/8"	45"	11 5/16"	10 4/5"	4 7/8"	8"
26"x53"	26"	53 1/4"	13 1/8"	13"	5 4/5"	10"
33"x63"	32 11/16"	63 1/8"	15 1/2"	16 1/3"	7 1/5"	12"
39"x79"	39 3/16"	78 7/8"	18 7/8"	19 3/5"	8 2/3"	16"
47"x79"	47 1/16"	78 7/8"	15 7/16"	23 1/2"	7 4/5"	40x12"
24"x24"	24"	24"	13"	12"	6 1/2"	8", 10", 14"x6"
24"x48"	24"	48"	13"	12"	6 1/2"	8", 10", 14"x6", 16"x8"
24"x60"	24"	60"	13"	12"	6 1/2"	8", 10", 14"x6", 16"x8"
36"x48"	36"	48"	16"	18"	8"	10", 12", 16"x8"
36"x60"	36"	60"	16"	18"	8"	10", 12", 16"x8", 18"x8", 24"x8"
48"x24"	48"	24"	13"	24"	6 1/2"	8", 10", 14"x6", 16"x8"
48"x36"	48"	36"	16"	24"	8"	10", 12", 16"x8", 18"x8"
60"x24"	60"	24"	13"	30"	6 1/2"	8", 10", 14"x6", 16"x8"
60"x36"	60"	36"	16"	30"	8"	10", 12", 16"x8", 18"x8"

AFA Reference Chart

AIRFLOW VS. NC LEVEL: AFA SERIES



AFA Performance Data

IP/METRIC DATA: AFA SERIES

	IP Data							Metric Data						Octave Band, dB						
Unit Size	Neck Vel	Air Flow	Pt	Ps	Near T ₅₀ @ 4 ft	T ₅₀ @ Floor	NC	Neck Vel	Air Flow	Pt	Ps	Near T ₂₅ @ 1.1 m	T ₂₅ @ Floor							
	FPM	CFM	"WG	"WG	ft	ft		m/s	L/s	Pa	Pa	m	m	2	3	4	5	6	7	
22" x 21"	400	78	.032	0.022	1	5	12	2.03	37	8.0	5.6	0.3	1.7	24	24	21	-	-	-	
	600	118	.073	0.050	2	8	22	3.05	56	18.1	12.5	0.7	2.5	31	32	31	23	11	12	
	800	157	.129	0.089	4	11	29	4.06	74	32.2	22.2	1.2	3.3	37	37	38	34	23	16	
	1000	196	.202	0.139	6	14	35	5.08	93	50.2	34.7	1.9	4.2	41	42	44	42	32	19	
22"x45"	400	140	.034	0.024	1	7	13	2.03	66	8.4	6.0	0.4	2.2	24	24	22	-	-	-	
	600	209	.076	0.054	3	11	23	3.05	99	19.0	13.4	0.9	3.3	31	33	32	25	14	15	
	800	279	.136	0.096	5	15	30	4.06	132	33.8	23.8	1.6	4.4	37	38	39	35	25	19	
	1000	349	.212	0.150	8	18	36	5.08	165	52.8	37.3	2.5	5.5	41	43	45	43	34	22	
26" x 53"	375	204	.032	0.023	1	9	12	1.91	96	7.9	5.7	0.4	2.6	23	24	20	-	-	-	
	500	273	.056	0.041	3	11	19	2.54	129	14.0	10.1	0.8	3.5	28	30	28	19	-	14	
	750	409	.127	0.092	6	17	30	3.81	193	31.5	22.8	1.8	5.2	36	38	38	33	24	20	
	950	518	.203	0.147	9	22	35	4.83	244	50.6	36.6	2.8	6.6	40	42	44	42	34	24	
33" x 63"	350	275	.030	0.022	2	10	11	1.78	130	7.4	5.5	0.5	2.9	21	23	19	-	-	11	
	500	392	.060	0.045	3	14	20	2.54	185	15.0	11.1	0.9	4.2	28	30	28	20	-	16	
	750	589	.136	0.101	7	20	30	3.81	278	33.8	25.0	2.1	6.2	36	38	38	34	26	22	
	900	706	.195	0.145	10	25	35	4.57	333	48.6	36.1	3.1	7.5	39	42	43	41	33	25	
39" x 79"	350	488	.035	0.027	2	13	12	1.78	230	8.6	6.7	0.6	3.9	21	24	20	-	-	14	
	475	663	.064	0.050	4	17	20	2.41	313	15.8	12.3	1.1	5.3	27	30	28	19	-	18	
	675	942	.128	0.100	8	25	29	3.43	444	32.0	24.9	2.3	7.5	34	37	36	32	24	23	
	875	1221	.216	0.168	13	32	35	4.45	576	53.8	41.9	3.9	9.7	39	42	43	41	34	27	
47" x 79"	325	1020	.042	0.036	3	18	12	1.65	481	10.5	8.8	0.8	5.4	20	24	19	-	-	17	
	450	1413	.081	0.068	5	25	20	2.29	667	20.1	17.0	1.5	7.5	26	30	27	19	11	21	
	625	1962	.156	0.131	10	34	29	3.18	926	38.8	32.7	3.0	10.4	32	37	35	31	24	26	
	800	2511	.255	0.215	16	44	35	4.06	1185	63.5	53.6	4.8	13.3	37	42	42	40	34	30	

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 or dB value of less than 10. Data was obtained from tests conducted in accordance with ANSI / ASHRAE Standard 70-1991.

AFA Suggested Specification & Configuration

1. **MODEL: (XXX)**
AFA - Rectangular, Low-Velocity Supply Unit
2. **UNIT SIZE: (XXxXX)**

22x21 - Nominal	24x60 - Nominal
22x45 - Nominal	36x48 - Nominal
26x53 - Nominal	36x60 - Nominal
33x63 - Nominal	48x24 - Nominal
39x79 - Nominal	48x36 - Nominal
47x79 - Nominal	60x24 - Nominal
24x24 - Nominal	60x36 - Nominal
24x48 - Nominal	
3. **PATTERN: (XX)**
 01 - One Way
 02 - Two Way Right *
 03 - Two Way Left *
 04 - Three Way
4. **INLET: (XX) or (XXxXX) ****
6, 8, 10, 12, 16, 14x06, 16x08, 18x08, 24x08
5. **INLET LOCATION: (X)**
 T - Top
 R - Right Side
 L - Left Side
 B - Back
6. **MATERIAL: (XX)**
 GS - Steel
 SS - 316 Stainless Steel ***
7. **FRONT PANEL THICKNESS: (XX)**
 20 - 20 Gage (Standard)
 16 - 16 Gage
8. **TRIM: (XXX)**
 WHT - White
 BLK - Black
 MTL - Metal, Painted to Match
9. **DUCT COVER: (XX)**
 00 - None
 DP - Perforated Duct Cover
 DS - Solid Sheet Duct Cover
10. **DUCT COVER LENGTH: (XXX.XXX)**
xxx.xxx - Length in Inches
11. **INSTALLATION BASE: (XX)**
 00 - None
 B2 - 2" Base Cover
 B4 - 4" Base Cover
 B6 - 6" Base Cover
12. **FINISH: (XX)**
 44 - White (RAL-9010)
 35 - Black
 90 - Polished ****
 07 - Custom

AFA

Furnish and install *Krueger by Halton* AFA displacement diffuser as indicated on the drawings and diffuser schedule.

The rectangular low velocity diffuser shall be made of galvanized steel with a polyester powder coat finish. The unit shall include a detachable perforated front panel and include an internal stair step design equalization baffle. The front panel shall have holes on a staggered pattern providing a well-balanced appearance and enhancement to performance. Both the internal baffle and diffuser face shall be attached securely to the extruded aluminum frame or galvanized housing. The diffuser design will be robust, rigid and sturdy with a 20ga. face and cabinet. The unit shall have a round or rectangular duct connection as required by the diffuser schedule. Round inlets shall include a fixed rubber gasket located near the edge of the inlet ensuring a proper seal of the attached duct work. The horizontal edges of the diffuser shall include a vinyl or metal trim for aesthetic appeal. Mounting brackets shall be included with the unit for installation.

BASE

Furnish and install the base as indicated on the drawings and diffuser schedule. The base shall be manufactured of 20ga. steel to match the footprint of the displacement diffuser. The base height will be indicated on the drawings and diffuser schedule. The base will be independently removable from the diffuser allowing access to the duct if supplied from below; or to the area beneath the diffuser. The base finish will match the diffuser.

DUCT COVER

Furnish and install the duct cover as indicated on the drawings and diffuser schedule. The duct cover will be supplied in either a solid or perforated 20ga. steel material. The perforated duct cover will match the diffuser in pattern and stagger. The duct cover will be supplied with mounting angles and trim pieces for installation. The duct cover finish will match the diffuser.

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.

* Facing the front of the diffuser with inlet on top.

** See dimensional information for unit and inlet size offerings.

*** Material Code SS (316 stainless steel) not available with Front Panel Thickness code 16 (16 gage). Material Code SS (316 stainless steel) only available with Finish code 90 (polished). If Material Code SS (Stainless Steel) is selected, the Duct Cover and Installation Base, if selected will be Stainless Steel.

**** Finish code 90 (polished) not available with Material Code GS (steel).

SAMPLE CONFIGURATION: AFA - 24x24 - 01 - 10 - T - GS - 20 - WHT - DP - 120.250 - B4 - 44