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KRUEGER
Excellence in Air Distribution

AFA
This rectangular unit is ideal for wall or ceiling installations.

AFB
The U-shaped 180° discharge pattern and high capacity is ideal for retail spaces, commercial, or lobbies.

AFC
The round, 360° discharge pattern is ideal for central spaces or column installations.

AFD
The rounded triangle design makes this a great choice for high profile areas.

AFE
This flat faced unit is ideal for shallow and flush mount applications.

AFF
The half flat oval, shallow design is ideal for offices, classrooms, and waiting areas.

AFP
The half round, 180° discharge pattern makes it ideal for column integration.

AFQ
This unit is ideal for high capacity corner applications.

DISPLACEMENT VENTILATION ENGINEERING

AFP

Introduction: AFP

The Krueger by Halton AFP provides a rounded high capacity, 180° discharge pattern with low occupied zone velocities. The half circle face is ideal for large supply areas requiring placement against a wall or as part of a pillar. The removable face facilitates cleaning of the internal baffle and duct connections.

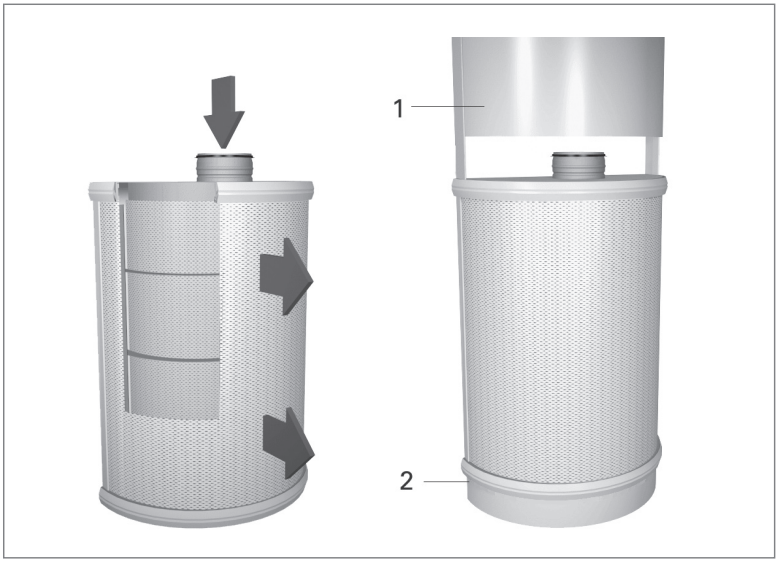
MODEL
AFP - Half Round, Low-Velocity Supply Unit

FEATURES
- 20 gage front panel.
- Horizontal low velocity discharge at floor level.
- Flow pattern at an angle of 180° enables large coverage with low residual velocities in the occupied zone.
- Detachable front plate and removable baffle enables cleaning of the unit and duct work.
- Round duct connection with integral gasket at the top or bottom of the diffuser.

OPTIONS
- Stainless steel (AISI 316) design.
- 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.

AFP Application



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

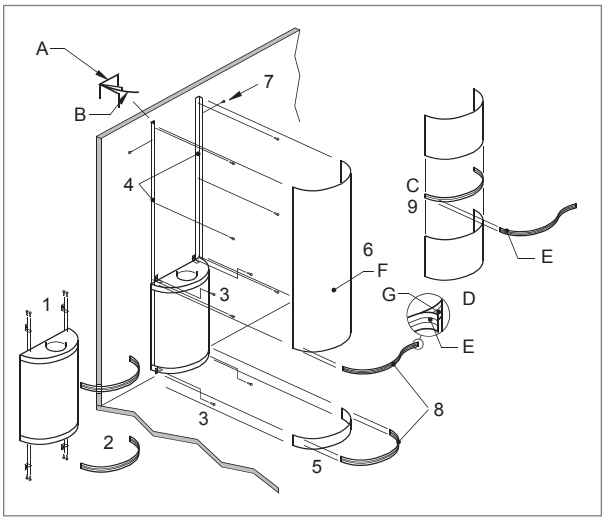
The supply air flows at floor level and gradually pervades through the occupied space before rising due to the convection of warm surfaces.

The low velocity flow pattern is semi-circular (180°).

NOTES: The flow pattern data has been defined for 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.

AFP Installation

INSTALLATION EXPLODED VIEW

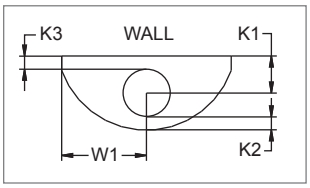


INSTALLATION

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.

DUCT INSTALLATION



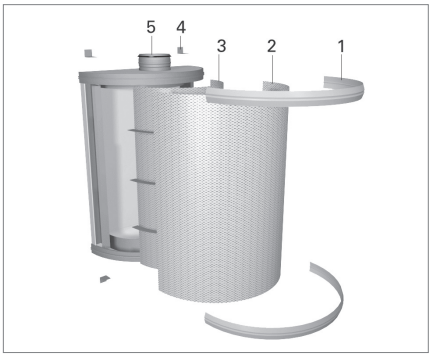
AFP Size (Nominal Dia x H)	W1	K1	K2	K3
14”x23”	8 3/8”	3 5/8”	1 1/2”	1 5/8”
16”x23”	9 1/2”	4”	1 9/16”	1 9/16”
20”x31”	11 1/2”	4 13/16”	1 7/8”	1 5/8”

AFP Service & Maintenance

SERVICING

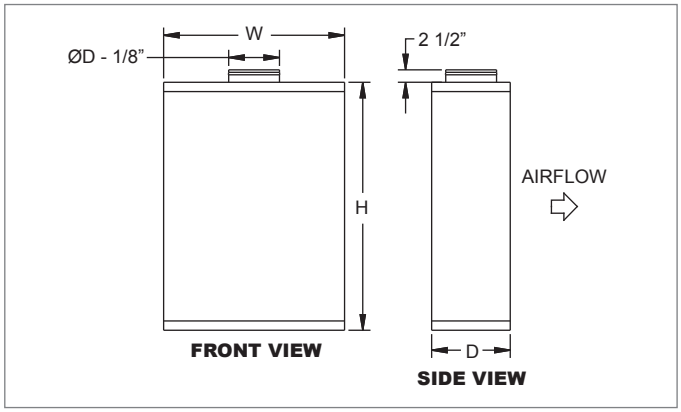
Open the front panel (2) by first removing the trim (1) and unscrewing the screws. Pull out the front panel. If required, the internal baffle (3) can be detached by unscrewing the fixing screws. Pull out the internal structure. Clean the parts with a brush or a damp cloth. After cleaning, reassemble in reverse order.

Code	Description
1	Trim
2	Front Panel
3	Internal Baffle
4	Assembly Brackets
5	Casing



AFP Dimensional Information

AFP FRONT AND SIDE VIEWS



AFP DIMENSIONAL REFERENCES

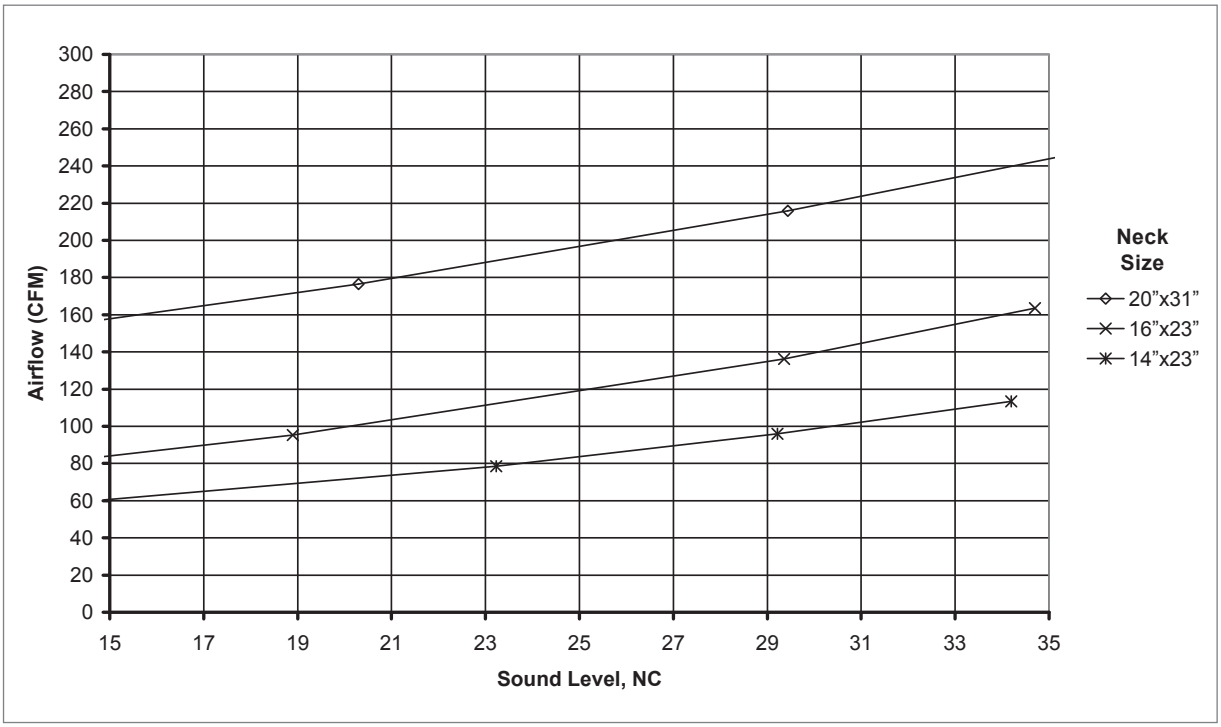
AFP Size (Nominal Dia x H)	W	H	D	ØD
14”x23”	16 11/16”	23 5/8”	7 5/16”	4”
16”x23”	19 1/16”	23 5/8”	8 1/4”	5”
20”x31”	23”	31 1/2”	10 1/16”	6”

AFP ADDITIONAL SIZES AVAILABLE

Nominal Dia.	H	ØD
18” Dia.	24”, 36”, 48”	10”, 12”
24” Dia.	24”, 36”, 48”, 60”	14”, 16”
30” Dia.	24”, 36”, 48”, 60”	14”, 16”

AFP Reference Chart

AIRFLOW VS. NC LEVEL: AFP SERIES



AFP Performance Data

IP/METRIC DATA: AFP SERIES

Unit Size	IP Data						NC	Metric Data						Octave Band, dB					
	Neck Vel	Air Flow	Pt	Ps	Near T_{50} @ 4 ft	T_{50} @ Floor		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
14"x23"	600	52	.038	0.016	0	1	11	3.05	25	9.5	3.9	0.1	0.5	23	21	23	11	-	-
	900	78	.086	0.035	1	2	23	4.57	37	21.3	8.8	0.3	0.7	27	30	33	26	14	-
	1100	96	.128	0.053	1	3	29	5.59	45	31.9	13.1	0.4	0.8	29	34	38	34	24	17
	1300	113	.179	0.073	2	3	34	6.60	53	44.5	18.3	0.5	0.8	31	38	42	40	33	23
16"x23"	550	75	.034	0.015	0	2	12	2.79	35	8.5	3.8	0.1	0.5	23	23	24	13	-	-
	700	95	.055	0.024	1	2	19	3.56	45	13.7	6.1	0.2	0.7	25	28	29	21	-	-
	1000	136	.112	0.050	1	3	29	5.08	64	28.0	12.4	0.4	0.9	29	35	37	34	24	14
	1200	164	.162	0.072	2	3	35	6.10	77	40.3	17.9	0.6	1.0	31	39	41	40	33	19
20"x31"	750	147	.056	0.021	0	3	12	3.81	69	13.8	5.1	0.1	0.9	29	29	24	16	-	-
	900	177	.080	0.030	0	3	20	4.57	83	19.9	7.4	0.1	1.0	30	32	30	25	16	-
	1100	216	.120	0.044	1	4	29	5.59	102	29.8	11.0	0.2	1.1	32	36	37	35	26	16
	1250	245	.154	0.057	1	4	35	6.35	116	38.4	14.2	0.2	1.2	33	39	42	41	33	22

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 10dB. 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.

AFP Suggested Specification & Configuration

1. **MODEL: (XXX)**
   AFP - Half Round, Low-Velocity Supply Unit

2. **UNIT SIZE: (XXxXX)**
   14x23 - Nominal
   16x23 - Nominal
   20x31 - Nominal
   See Krueger's selection software for additional sizes.

3. **INLET: (XX) ***
   4, 5, 6, 10, 12, 14, 16

4. **MATERIAL: (XX)**
   GS - Steel
   SS - 316 Stainless Steel **

5. **FRONT PANEL THICKNESS: (XX)**
   20 - 20 Gage (Standard)
   16 - 16 Gage

6. **TRIM: (XXX)**
   WHT - White
   BLK - Black
   MTL - Metal, Painted to Match

7. **DUCT COVER: (XX)**
   00 - None
   DP - Perforated Duct Cover
   DS - Solid Sheet Duct Cover

8. **DUCT COVER LENGTH: (XXX.XXX)**
   xxx.xxx - Length in Inches

9. **INSTALLATION BASE: (XX)**
   00 - None
   B2 - 2" Base Cover
   B4 - 4" Base Cover
   B6 - 6" Base Cover

10. **FINISH: (XX)**
    44 - White (RAL-9010)
    35 - Black
    90 - Polished ***
    07 - Custom

* *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).*

AFP

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

The half round 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 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 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 material 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.

SAMPLE CONFIGURATION: AFP - 14x23 - 4 - GS - 20 - WHT - DP - 120.250 - B4 - 44