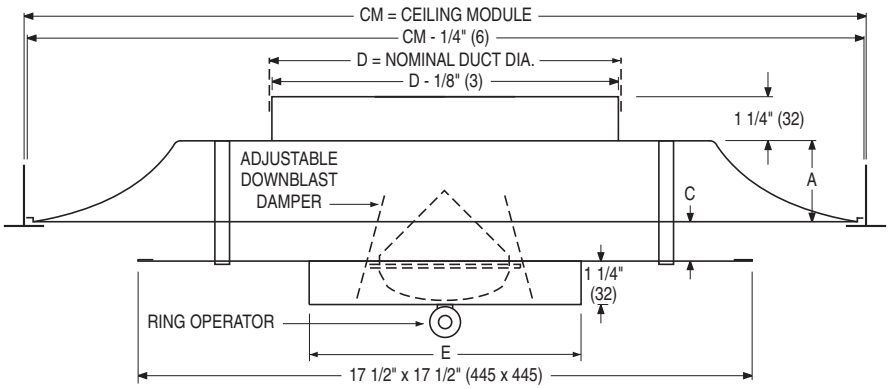
SQUARE CEILING DIFFUSER
ADJUSTABLE DOWNBLAST
HIGH PERFORMANCE • ROUND NECK • STEEL
MODEL: UNI-AD

Nailor Industries Inc.

❑ TYPE L Lay-in T-Bar



Dimensional Data

CM		Imperial Units (inches)						Metric Units (mm)					
Imperial Modules	Metric Modules	Duct Size D	E	A	B	C	F	Duct Size D	E	A	B	C	F
24 x 24	600 x 600	12, 14	8 10	2 5/16	22	1 3/16	24 3/4	305, 356	203, 254	59	559	30	629

DESCRIPTION:

1. Material: Corrosion-resistant steel.
2. Specially designed for high airflow applications at minimum NC levels such as theatres, auditoriums and other high ceiling applications, where conditions and floor to ceiling height are variable. Effective for heating and spot cooling. Radial vanes in the adjustable face damper permit air pattern adjustment from full horizontal to approx. 50/50 horizontal/vertical. Full adjustment requires only a half turn and is easily accomplished from the floor using the ring operator and a pole (by others). The horizontal portion has a 360° discharge pattern. The vertical portion provides a true and long downward projection.
3. The diffuser features a stamped one-piece outer-cone which eliminates mitered corners and a heavy gauge inner face panel with a hemmed edge for strength and a clean appearance.
4. Standard finish is AW Appliance White. (Select color from finish option).

OPTIONS:

❑ EX External Foil-Back Insulation, installed - R-4.2
❑ EXB External Foil-Back Insulation, ships loose - R-4.2
❑ MIB Molded Insulation Blanket - R-6.0 (24 x 24 only)
❑ EQT Earthquake Tabs

Finish:

❑ BK Black
❑ AW Appliance White
❑ SP Special. Specify _____ .

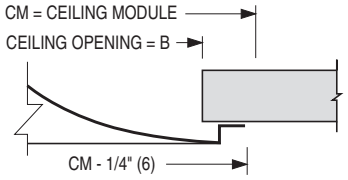
QB Quadrant Blanks:

❑ QB3 3-Way Blow
❑ QC2 2-Way Corner Blow
❑ QB2 2-Way Opposite Blow
❑ QB1 1-Way Blow

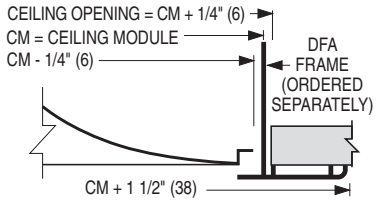
Fineline® is a registered trademark of USG Interiors Inc.

Dimensions are in inches (mm).

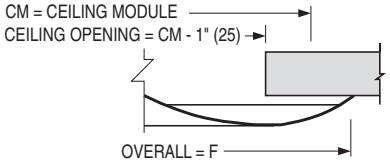
❑ TYPE L Surface Mount
Hard duct connection recommended.



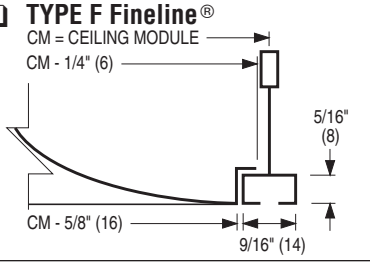
❑ TYPE L Surface Mount With DFA
Drywall/Plaster frame. Recommended for flexible duct connection and ceiling access



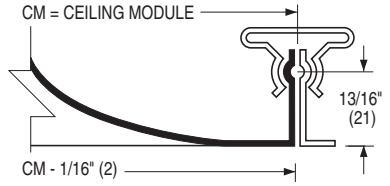
❑ TYPE S Surface Mount



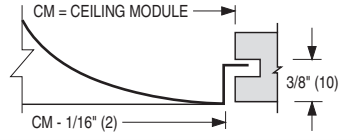
❑ TYPE F Fineline®



❑ TYPE M Metal Pan (Snap-in)



❑ TYPE SP Spline
For one directional exposed T-Bar or fully concealed grid. 1 spline on two opposite sides. Steel lift brackets on other.

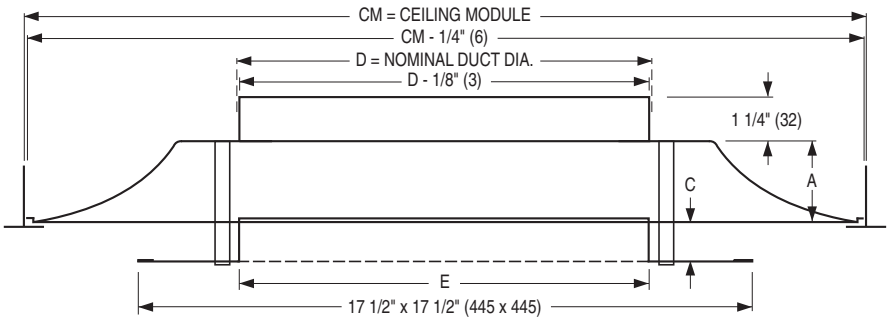


SCHEDULE TYPE:				
PROJECT:				
ENGINEER:	**DATE**	**B SERIES**	**SUPERSEDES**	**DRAWING NO.**
CONTRACTOR:	**1 - 24 - 17**	**UNI**	**3 - 11 - 16**	**UNI-AD**

SQUARE CEILING DIFFUSER
FIXED PERFORATED DOWNBLAST
HIGH PERFORMANCE • ROUND NECK • STEEL
MODEL: UNI-PD

Nailor® Industries Inc.

❑ TYPE L Lay-in T-Bar



Dimensional Data

CM		Imperial Units (inches)						Metric Units (mm)					
Imperial Modules	Metric Modules	Duct Size D	E	A	B	C	F	Duct Size D	E	A	B	C	F
24 x 24	600 x 600	12, 14	11 1/4	2 5/16	22	1 3/16	24 3/4	305, 356	285	59	559	30	629

DESCRIPTION:

1. Material: Corrosion-resistant steel.
2. Specially designed for high airflow applications at minimum NC levels such as theatres, auditoriums and other high ceiling applications, where conditions and floor to ceiling height are variable. Effective for heating and spot cooling. A circular perforated aperture in the diffuser face provides for both a horizontal and vertical apportion of the airflow. The horizontal portion has a 360° discharge pattern. The vertical portion provides a true and long downward projection.
3. The diffuser features a stamped one-piece outer-cone which eliminates mitered corners and a heavy gauge inner face panel with a hemmed edge for strength and a clean appearance.
   Perforated face has 3/8" (10) diameter holes on 5/8" (16) staggered centers.
4. Standard finish is AW Appliance White. (Select color from finish option).

OPTIONS:

❑ EX External Foil-Back Insulation, installed - R-4.2
❑ EXB External Foil-Back Insulation, ships loose - R-4.2
❑ MIB Molded Insulation Blanket - R-6.0 (24 x 24 only)
❑ EQT Earthquake Tabs

Finish:
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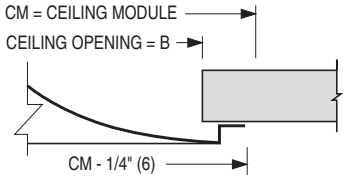
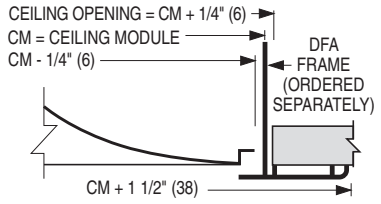
Dimensions are in inches (mm).

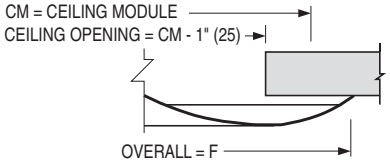
❑ TYPE L Surface Mount
Hard duct connection recommended.



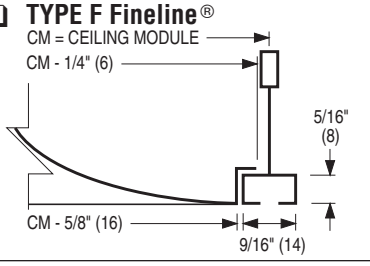
❑ TYPE L Surface Mount With DFA
Drywall/Plaster frame. Recommended for flexible duct connection and ceiling access



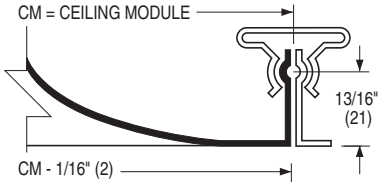
❑ TYPE S Surface Mount



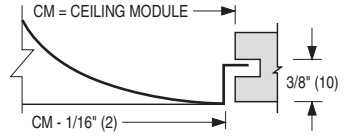
❑ TYPE F Fineline®



❑ TYPE M Metal Pan (Snap-in)

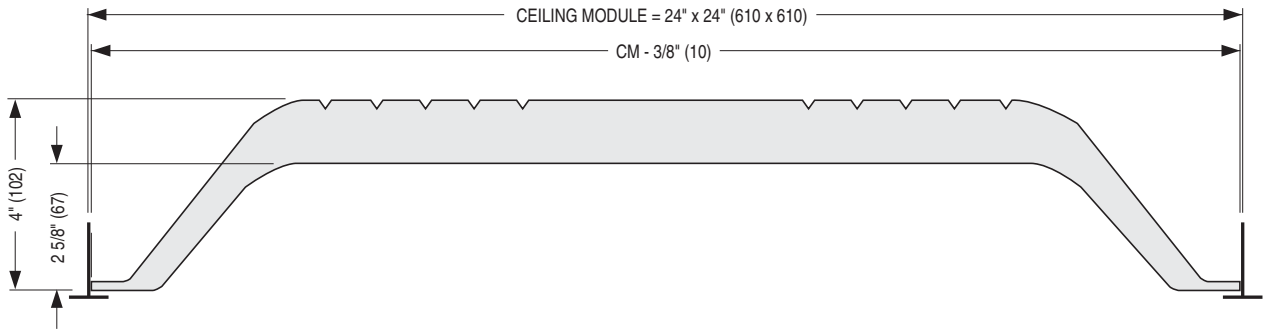


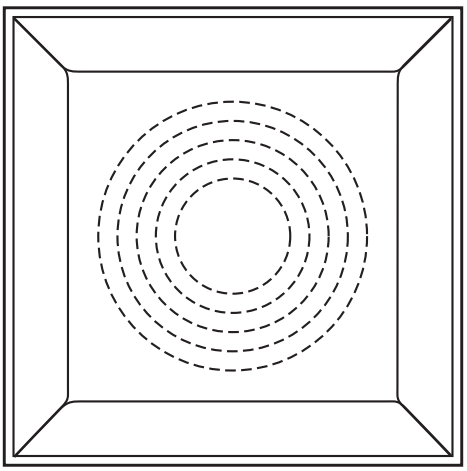
❑ TYPE SP Spline
For one directional exposed T-Bar or fully concealed grid. 1 spline on two opposite sides. Steel lift brackets on other.



SCHEDULE TYPE:				
PROJECT:				
ENGINEER:	**DATE**	**B SERIES**	**SUPERSEDES**	**DRAWING NO.**
CONTRACTOR:	**1 - 24 - 17**	**UNI**	**3 - 11 - 16**	**UNI-PD**

MOLDED INSULATION BLANKET
CEILING DIFFUSER ACCESSORY
24" x 24" MODULE FOR CEILING DIFFUSERS
MODEL/ACCESSORY: MIB





DESCRIPTION:

1. One piece molded fiberglass insulation blanket with foil back vapour barrier. 6.0 R-value.
2. Pre-scored plenum 6", 8", 10", 12" or 14" (152, 203, 254, 305 or 356) dia. for field cutting.
3. The Nailor Model MIB fits over the backpan of most full face 24" x 24" diffusers and provides thermal protection to reduce the risk of condensation forming on the diffuser face.

   Compatible models include RNS, RNS2, RNS3, UNI, 6200, 6400, 6500 and 4320 series.
4. The Nailor Model MIB: resists ageing, thermal shock, is incombustible, immune to rot, corrosion, oxidation and insects.
5. Tested in compliance with surface burning characteristics (ASTM E-84) and erosion test (UL 181).
6. Standard finish has a black interior.

SCHEDULE TYPE:	Dimensions are in inches (mm).			
PROJECT:				
ENGINEER:	**DATE**	**B SERIES**	**SUPERSEDES**	**DRAWING NO.**
CONTRACTOR:	**1 - 16 - 17**	**MIB**	**2 - 1 - 11**	**MIB-1**

Nailor Industries Inc.

Standard and Optional Finishes For Grilles and Diffusers

Nailor offers a selection of standard colors and finishes available on our grilles, registers and diffusers. For painted finishes, our state-of-the-art paint systems provide environmentally friendly finishing solutions with uniform coverage and coating thickness. The result is an exceptionally durable finish that resists scratching, corrosion and general wear. Additional facilities for special requirements, as well as a selection of anodized or brushed finishes, complete our ability to provide unmatched beauty and durability for any application.

NAILOR POWDER COAT PROPERTIES

FILM THICKNESS	2.0 to 3.0 mils
HARDNESS	2 H
IMPACT RESISTANCE	Direct: 160 inch - lbs. Reverse 160 inch - lbs.
SALT SPRAY	1000 hours

ELECTROCOATING PROPERTIES

FILM THICKNESS	.8 to 1.2 mils
HARDNESS	HB TO H
IMPACT RESISTANCE	80 inch - lbs
SALT SPRAY	100 hours

POWDER COAT

Nailor's powder coat is a high-tech thermosetting polyester powder coating with superior physical properties that provide excellent color and gloss retention. The finish offers extreme durability and hardness that resists scratching, chipping and general wear. Surface preparation includes degreasing and a chemical cleaning followed by a clean rinse before a final powder coat finish is applied and baked. The environmentally friendly Nailor powder coat system assures uniform coverage and color consistency resulting in a long lasting superior finish. Colors, including simulated anodizing, which is far more economical than color anodizing, can be selected from Nailor's standard color chart or non-standard colors and can be matched from sample chips provided to Nailor.

ELECTROCOATING

E-Coat is an environmentally friendly coating that provides complete coverage and a wide range of performance properties, formulated to meet corrosion, durability and other performance specifications. Electrocoating is a highly automated process in which paint is electrically deposited onto a metal foundation. Film build thickness is uniform and overall application efficiencies are in excess of 90%. Paint is consistent on all part-to-part surfaces, preventing sags, runs or drips. E-Coat offers flexibility, better first yield pass and quicker production times compared to other forms of paint applications. Electrocoating is an excellent solution that offers superior properties and uniform finish.

CLEAR ANODIZING (Aluminum products only)

Clear anodizing is a clear oxide coating that exemplifies an aluminum surface's natural oxide coating producing a hard, scratch resistant surface that is resistant to general wear and mild chemicals. The process provides a natural looking, virtually maintenance free finish that will endure for many years.

COLOR ANODIZING (Aluminum products only)

Color anodizing is an electrolytic process where, after standard anodizing procedures, colored metallic pigments penetrate the oxide surface pores producing a corrosion resistant, colorfast finish. The process results in a natural metallic appearance that requires little maintenance.

BRUSHED AND CLEAR COAT

Available on specific aluminum products (consult applicable product page for availability). Surface is brushed to achieve a scratch finish texture before being degreased and chemically cleaned. A clear lacquer coating is then applied to provide a durable protective finish.

#4 BRUSHED SATIN POLISHED (Stainless Steel products only)

Surface is polished to ASTM A480 #4 standard to achieve a bright durable finish that is resistant to mild chemicals and corrosion. A final coating is not required due to the inherent anti-corrosion properties of the stainless steel.

PRIME COAT

Prime coat provides a stable base for painting in the field. Surface pretreatment includes degreasing and a chemical cleaning before an alkyd prime coat is applied. After a thorough cleaning for dust, etc. that can contaminate the final finish and cause premature flaking or peeling, finish coat should be field applied as soon as possible.

PAINT PREPARED ALUMINUM (Aluminum products only)

Allows for field applied paint. Surface preparation includes degreasing and a chemical cleaning followed by a clean rinse. Finish coat should be field applied as soon as possible.

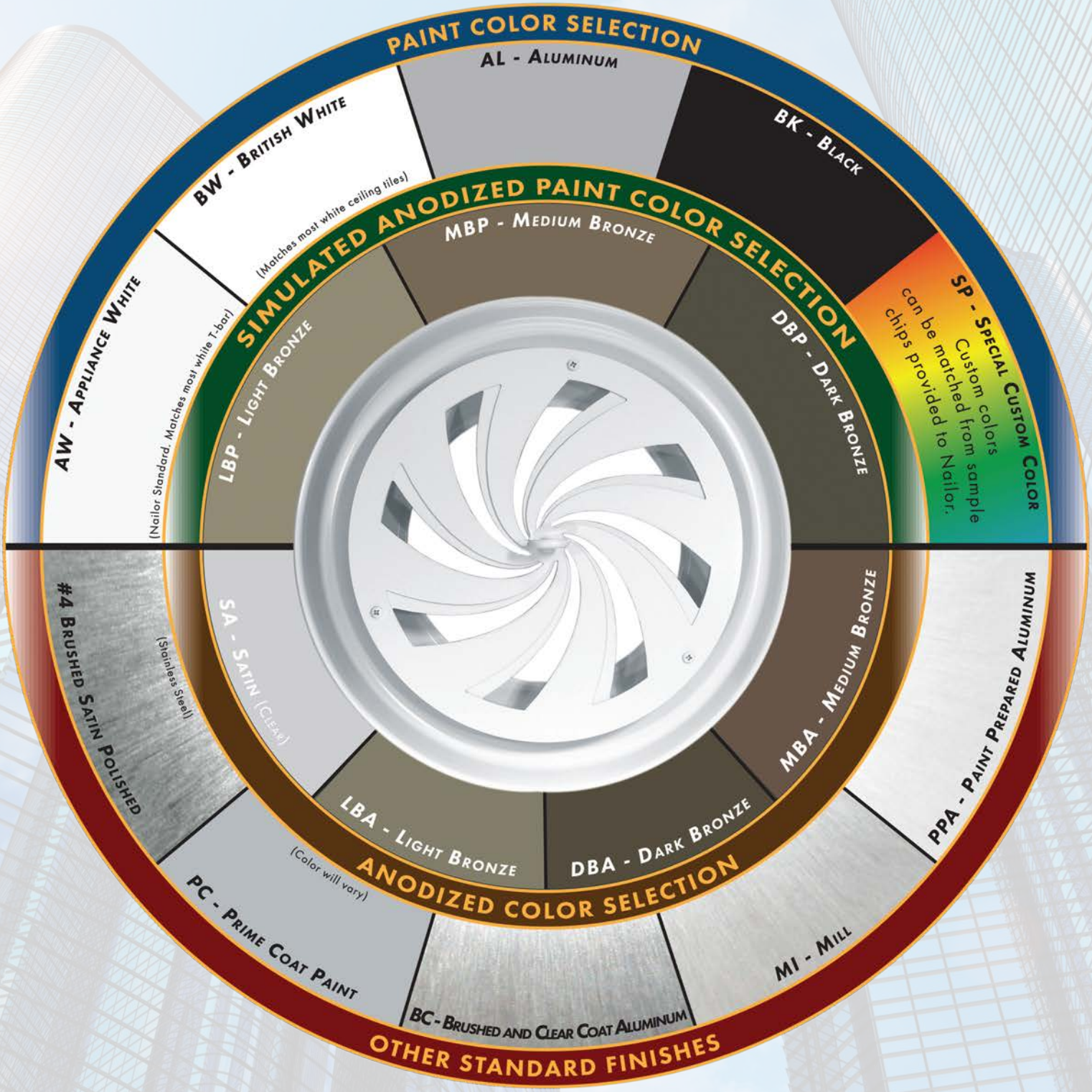
MILL FINISH

Surface is left untreated and requires cleaning, degreasing, etc. in the field before final finish can be applied if required.

Nailor® Industries Inc.

Standard and Optional Finishes For Grilles and Diffusers

The following standard colors and finishes are available on applicable Nailor air distribution products. Consult individual product pages for availability



The pictured finishes have been represented as best as possible within printing limitations. However, actual finish may vary. Contact your Nailor representative for a color chip sample on the material specified for a more accurate representation.

DBK - Black (for registers ordered with factory mounted dampers) - ***BA*** - Perforated Diffusers (4300 series only) Appliance White (AW) face with black back pan and pattern controllers.

PERFORMANCE DATA:

Models UNI-AD • 24 x 24 (600 x 600) Face Size • 4-way Blow (360° Pattern)

Nominal Neck Size	Neck Velocity, FPM	400	500	600	700	800	900	1000	1200	1400	1600
	Velocity Pressure	.010	.016	.023	.031	.040	.051	.063	.090	.122	.160
12" Dia.	Total Pressure	.040	.063	.090	.123	.161	.203	.251	.361	.492	.643
	Airflow, CFM	315	390	470	550	630	705	785	940	1100	1255
	Horizontal Throws, Ft. H	5	7	8	9	11	12	14	15	17	18
	Vertical Projections, Ft. V	3-13	4-16	5-20	7-22	8-28	8-32	9-34	10-36	15-59	19-62
	Noise Criteria	—	—	13	16	21	25	29	35	41	46
14" Dia.	Total Pressure	.054	.083	.120	.163	.214	.270	.334	.481	.655	.855
	Airflow, CFM	425	530	635	745	850	955	1060	1270	1490	1695
	Horizontal Throws, Ft. H	7	9	11	13	15	17	19	21	22	24
	Vertical Projections, Ft. V	5-14	5-16	6-20	6-24	8-30	9-32	10-34	14-57	20-65	25-75
	Noise Criteria	—	—	14	18	23	27	30	37	43	48

Performance Notes:

1. Horizontal throws are given at a terminal velocity of 50 fpm and a 20°F cooling temperature differential.

Vertical projections are given at a terminal velocity of 50 fpm. Minimum projections are for a 40°F heating temperature differential and maximum projections are for a 20°F cooling differential.

2. All pressures are in inches w.g.. To obtain static pressure, subtract the velocitiy pressure from the total pressure.

3. Noise Criteria (NC) values are based upon 10dB room absorption, re 10^{-12} watts. Noise Criteria values shown are for the horizontal discharge pattern. For downblast (damper open), deduct 5. Dash (—) in space indicates an Noise Criteria of less than 10.

4. Data derived from tests conducted in accordance with ANSI/ASHRAE Standard 70 – 2006.

PERFORMANCE DATA:

Models UNI-PD • 24 x 24 (600 x 600) Face Size • 4-way Blow (360° Pattern)

Nominal Neck Size	Neck Velocity, FPM	400	500	600	700	800	900	1000	1200	1400	1600
	Velocity Pressure	.010	.016	.023	.031	.040	.051	.063	.090	.122	.160
12" Dia.	Total Pressure	.018	.028	.041	.055	.072	.092	.113	.163	.221	.289
	Airflow, CFM	315	390	470	550	630	705	785	990	1100	1255
	Horizontal Throws, Ft. H	2-3-4	3-5-7	3-5-8	4-6-8	5-6-10	5-7-11	6-8-10	6-9-12	8-11-13	9-12-16
	Vertical Projections, Ft. V	6-9	8-10	8-10	9-12	10-13	12-14	15-17	16-18	17-19	20-21
	Noise Criteria	—	—	—	13	18	22	26	34	38	42
14" Dia.	Total Pressure	.023	.036	.051	.070	.092	.116	.143	.206	.280	.366
	Airflow, CFM	425	530	635	745	850	955	1060	1270	1490	1695
	Horizontal Throws, Ft. H	2-4-5	3-5-6	4-5-7	5-6-7	5-6-8	6-7-8	6-7-9	7-9-11	8-10-13	9-11-14
	Vertical Projections, Ft. V	8-11	9-12	9-13	10-14	11-15	12-16	13-17	15-19	17-21	19-23
	Noise Criteria	—	—	—	15	20	24	28	36	40	44

Performance Notes:

1. Horizontal throws are given at a terminal velocity of 150, 100 and 50 fpm under isothermal conditions.

Horizontal throws for non-isothermal air are determined by applying the following correction factors to the cataloged values:

ΔT	Factor
- 20°F clg. + 20°F htg.	x 1.20 x 0.85

Vertical projections are given at a terminal velocity of 50 fpm. Minimum projections are for a 20°F heating temperature differential and maximum projections are for a 20°F cooling differential.

2. Horizontal/Vertical apportion of the airflow:

12" neck approximately 60/40%.

14" neck approximately 65/35%.

3. All pressures are in inches w.g.. To obtain static pressure, subtract the velocitiy pressure from the total pressure.

4. Noise Criteria (NC) values are based upon 10dB room absorption, re 10^{-12} watts. Dash (—) in space indicates an Noise Criteria of less than 10.

5. Data derived from tests conducted in accordance with ANSI/ASHRAE Standard 70 – 2006.