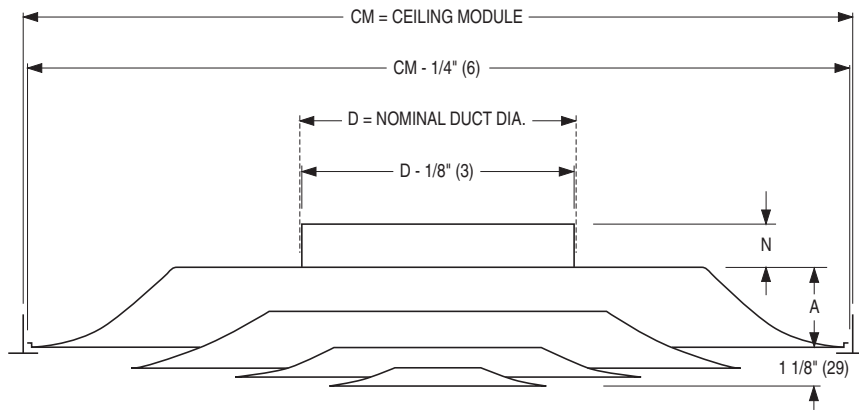




SQUARE CEILING DIFFUSERS
FIXED PATTERN • LOUVERED FACE
STEEL • ROUND NECK • 4 CONE
MODEL: RNS

TYPE L Lay-in T-Bar



Dimensional Data

Ceiling Module CM		Imperial Units (inches)					Metric Units (mm)				
Imperial Modules	Metric Modules	Duct Size D	N	A	B	F	Duct Size D	N	A	B	F
12 x 12	300 x 300	4*	3 1/4	1	11	13	102*	83	25	279	330
		5, 6, 7, 8	1 1/4				127, 152, 178, 203				
24 x 24	600 x 600	6, 8, 10, 12, 14, 15	1 1/4	2 5/16	22	24 3/4	152, 203, 254, 305, 356, 381	32	59	559	629

* Supplied with a reducer.

DESCRIPTION:

1. Material: Heavy gauge, corrosion-resistant steel.
2. The diffuser delivers the air in a true 360° radial horizontal pattern. Designed to minimize smudging and streaking of ceiling.
3. Excellent for VAV systems. The uniform near horizontal jets from the louvered cones maintain effective air motion over a considerable range of air volumes.
4. The models consist of four die-formed concentric cones in all sizes which eliminate mitered corners and provide uniform appearance in all neck sizes.
5. A spring clip arrangement permits quick, easy installation and removal of the inner cone assembly.
6. Diffuser has a removable plug for screwdriver adjustment of the optional damper without removing the inner core.
7. Standard finish is AW Appliance White.

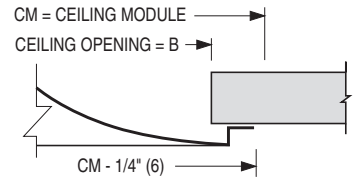
OPTIONS:

- 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)
 - EIC Extended Inlet Collar (2.25") with bead
 - EQT Earthquake Tabs
- Finish:
- SP Special. Specify _____.
- QB Quadrant Blanks:
- QB3 3-Way Blow
 - QC2 2-Way Corner Blow
 - QB2 2-Way Opposite Blow
 - QB1 1-Way Blow

Dimensions are in inches (mm). Fineline® is a registered trademark of USG Interiors Inc.

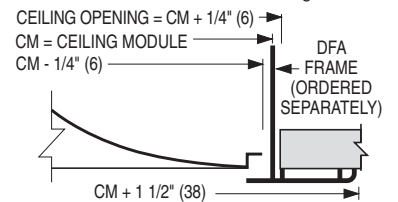
TYPE L Surface Mount

Hard duct connection recommended.



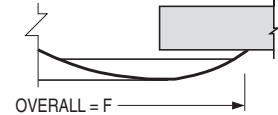
TYPE L Surface Mount With DFA

Drywall/Plaster frame. Recommended for flexible duct connection and ceiling access

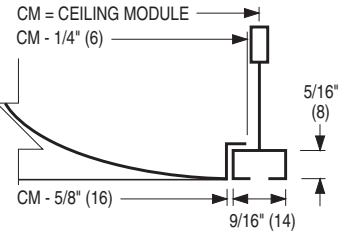


TYPE S Surface Mount

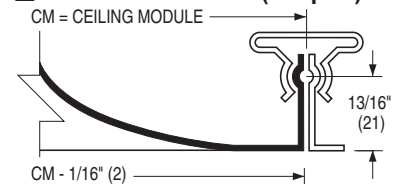
CM = CEILING MODULE
 CEILING OPENING = CM - 1" (25)



TYPE F Fineline®

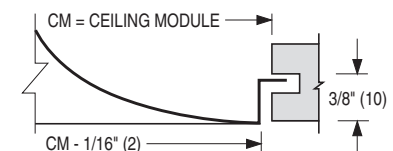


TYPE M Metal Pan (Snap-in)



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:

CONTRACTOR:

DATE

B SERIES

SUPERSEDES

DRAWING NO.

4 - 20 - 17

RNS

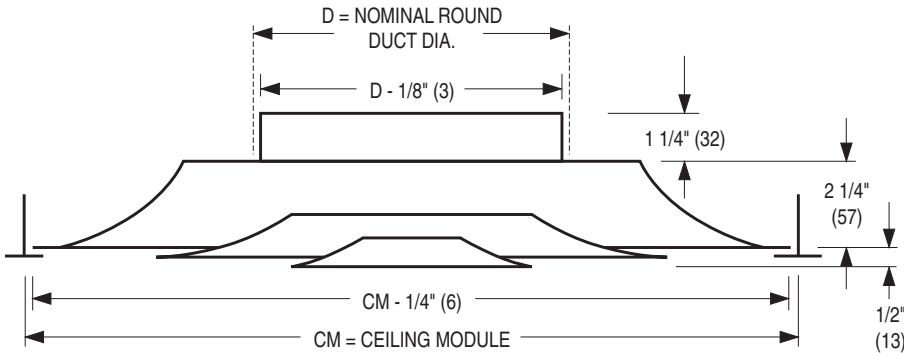
1 - 24 - 17

4200-1



SQUARE CEILING DIFFUSERS
FIXED PATTERN • LOUVERED FACE
STEEL • ROUND NECK • 3 CONE
MODEL: RNS 20 x 20 MODULE

TYPE L Lay-in T-Bar



Dimensional Data

Ceiling Module CM		Imperial Units (inches)		Metric Units (mm)	
Imperial Modules	Metric Modules	Duct Size D	B	Duct Size D	B
20 x 20	500 x 500	6, 8, 10	18 1/2	152, 203, 254	470

The 20 x 20 (500 x 500) module is only available with the Type L frame.

DESCRIPTION:

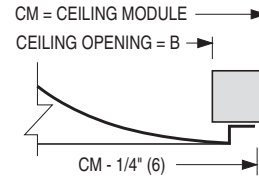
1. Material: Heavy gauge, corrosion-resistant steel.
2. The diffuser delivers the air in a true 360° radial horizontal pattern. Designed to minimize smudging and streaking of ceiling.
3. Excellent for VAV systems. The uniform near horizontal jets from the louvered cones maintain effective air motion over a considerable range of air volumes.
4. The RNS with 20" x 20" face, consists of three die-formed concentric cones which eliminate mitered corners and provide uniform appearance in all neck sizes.
5. A spring clip arrangement permits quick, easy installation and removal of the inner cone assembly.
6. Diffuser has a removable plug for screwdriver adjustment of the optional damper without removing the inner core.
7. Standard finish is AW Appliance White.

OPTIONS:

- EX External Foil-Back Insulation, installed - R-4.2
 - EXB External Foil-Back Insulation, ships loose - R-4.2
 - EIC Extended Inlet Collar (2.25") with bead
 - EQT Earthquake Tabs
- Finish:
- SP Special. Specify _____ .
- QB Quadrant Blanks:
- QB3 3-Way Blow
 - QC2 2-Way Corner Blow
 - QB2 2-Way Opposite Blow
 - QB1 1-Way Blow

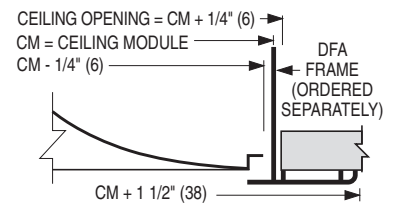
TYPE L Surface Mount

Hard duct connection recommended.



TYPE L Surface Mount With DFA

Drywall/Plaster frame. Recommended for flexible duct connection and ceiling access



SCHEDULE TYPE:	
PROJECT:	
ENGINEER:	
CONTRACTOR:	

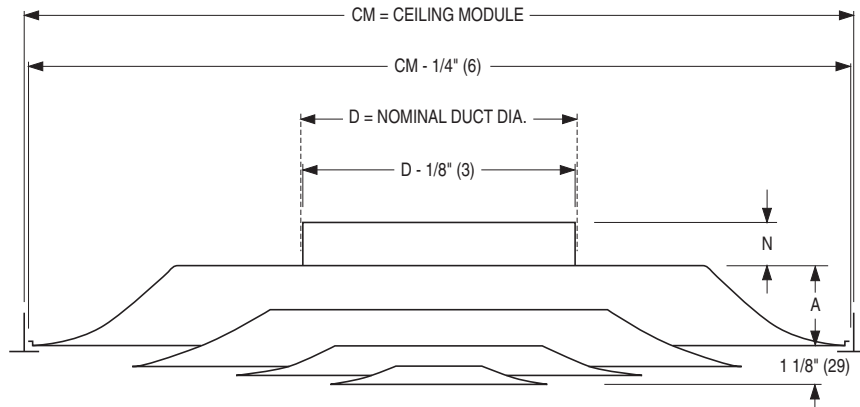
Dimensions are in inches (mm).

DATE	B SERIES	SUPERSEDES	DRAWING NO.
4 - 20 - 17	RNS	1 - 24 - 17	4200-2



SQUARE CEILING DIFFUSERS
 FIXED PATTERN • LOUVERED FACE
 ALUMINUM • ROUND NECK • 4 CONE
MODEL: ARNS

TYPE L Lay-in T-Bar



Dimensional Data

Ceiling Module CM		Imperial Units (inches)					Metric Units (mm)				
Imperial Modules	Metric Modules	Duct Size D	N	A	B	F	Duct Size D	N	A	B	F
12 x 12	300 x 300	4*	3 1/4	1	11	13	102*	83	25	279	330
		5, 6, 7, 8	1 1/4				127, 152, 178, 203				
24 x 24	600 x 600	6, 8, 10, 12, 14, 15	1 1/4	2 5/16	22	N/A	152, 203, 254, 305, 356, 381	32	59	559	N/A

* Supplied with a reducer.

DESCRIPTION:

1. Material: Aluminum construction with corrosion-resistant steel neck bracketry.
2. The diffuser delivers the air in a true 360° radial horizontal pattern. Designed to minimize smudging and streaking of ceiling.
3. Excellent for VAV systems. The uniform near horizontal jets from the louvered cones maintain effective air motion over a considerable range of air volumes.
4. The models consist of four die-formed concentric cones in all sizes which eliminate mitered corners and provide uniform appearance in all neck sizes.
5. A spring clip arrangement permits quick, easy installation and removal of the inner cone assembly.
6. Diffuser has a removable plug for screwdriver adjustment of the optional damper without removing the inner core.
7. Standard finish is AW Appliance White.

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:

- SP Special. Specify _____.

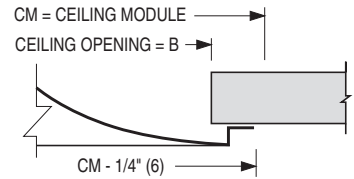
QB Quadrant Blanks:

- 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.

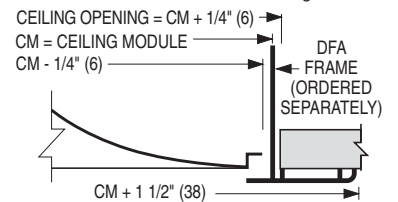
TYPE L Surface Mount

Hard duct connection recommended.



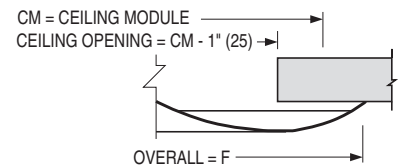
TYPE L Surface Mount With DFA

Drywall/Plaster frame. Recommended for flexible duct connection and ceiling access

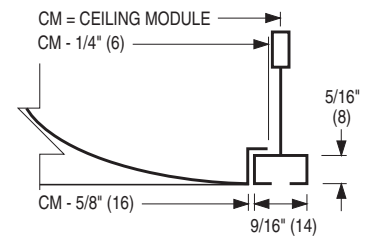


TYPE S Surface Mount

(12 x 12 [305 x 305] module only)



TYPE F Fineline®



SCHEDULE TYPE:

PROJECT:

ENGINEER:

CONTRACTOR:

Dimensions are in inches (mm).

DATE

B SERIES

SUPERSEDES

DRAWING NO.

1 - 24 - 17

RNS

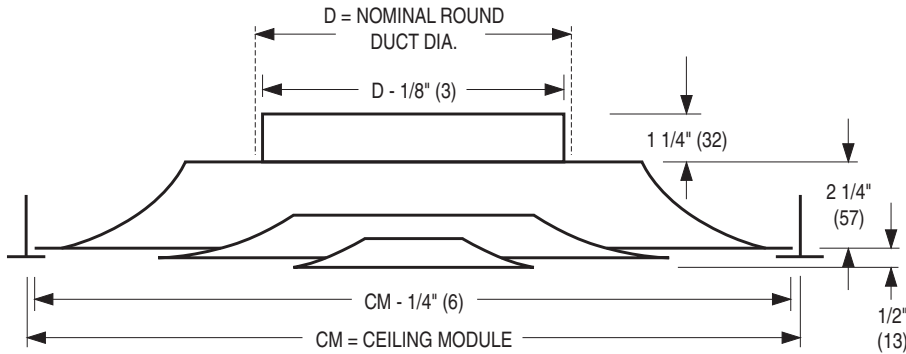
7 - 25 - 16

4200-3A



SQUARE CEILING DIFFUSERS
FIXED PATTERN • LOUVERED FACE
ALUMINUM • ROUND NECK • 3 CONE
MODEL: ARNS 20 x 20 MODULE

TYPE L Lay-in T-Bar



Dimensional Data

Ceiling Module CM		Imperial Units (inches)		Metric Units (mm)	
Imperial Modules	Metric Modules	Duct Size D	B	Duct Size D	B
20 x 20	500 x 500	6, 8, 10	18 1/2	152, 203, 254	470

The 20 x 20 (500 x 500) module is only available with the Type L frame.

DESCRIPTION:

1. Material: Aluminum construction with corrosion-resistant steel neck bracketry.
2. The diffuser delivers the air in a true 360° radial horizontal pattern. Designed to minimize smudging and streaking of ceiling.
3. Excellent for VAV systems. The uniform near horizontal jets from the louvered cones maintain effective air motion over a considerable range of air volumes.
4. The ARNS with 20" x 20" face, consists of three die-formed concentric cones which eliminate mitered corners and provide uniform appearance in all neck sizes.
5. A spring clip arrangement permits quick, easy installation and removal of the inner cone assembly.
6. Diffuser has a removable plug for screwdriver adjustment of the optional damper without removing the inner core.
7. Standard finish is AW Appliance White.

OPTIONS:

- EX External Foil-Back Insulation, installed - R-4.2
- EXB External Foil-Back Insulation, ships loose - R-4.2
- EQT Earthquake Tabs

Finish:

- SP Special. Specify _____.

QB Quadrant Blanks:

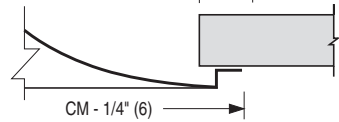
- QB3 3-Way Blow
- QC2 2-Way Corner Blow
- QB2 2-Way Opposite Blow
- QB1 1-Way Blow

TYPE L Surface Mount

Hard duct connection recommended.

CM = CEILING MODULE

CEILING OPENING = B



TYPE L Surface Mount With DFA

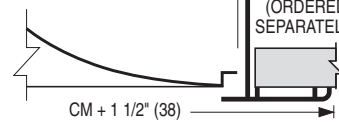
Drywall/Plaster frame. Recommended for flexible duct connection and ceiling access

CEILING OPENING = CM + 1/4" (6)

CM = CEILING MODULE

CM - 1/4" (6)

DFA
FRAME
(ORDERED
SEPARATELY)



SCHEDULE TYPE:	
PROJECT:	
ENGINEER:	
CONTRACTOR:	

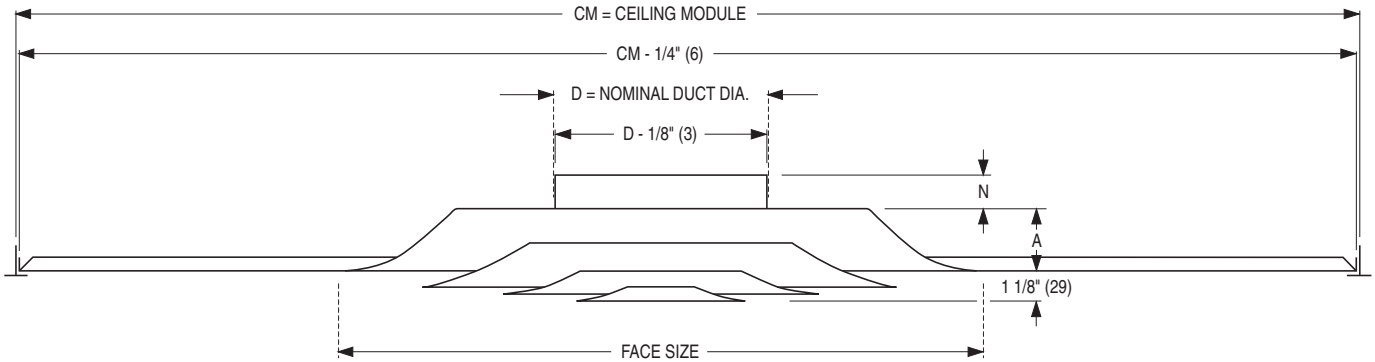
Dimensions are in inches (mm).

DATE	B SERIES	SUPERSEDES	DRAWING NO.
1 - 24 - 17	RNS	3 - 2 - 16	4200-3B



SQUARE CEILING DIFFUSERS
 FIXED PATTERN • PANEL MOUNTED
 STEEL • ROUND NECK • 4 CONE
 MODEL: RNS TYPE PL

TYPE PL Panel Mounted Lay-in T-Bar



Dimensional Data

Ceiling Module CM		Imperial Units (inches)				Metric Units (mm)			
Imperial Modules	Metric Modules	Face Size	Duct Size D	N	A	Face Size	Duct Size D	N	A
24 x 24	600 x 600	12 x 12	4*	3 1/4	1	300 x 300	102*	83	25
24 x 12	600 x 300		5, 6,	1 1/4			127, 152,	32	
20 x 20	500 x 500		7, 8	152, 203					
30 x 30	750 x 750	24 x 24	6, 8, 10, 12, 14, 15	1 1/4	2 5/16	600 x 600	152, 203, 254, 305, 356, 381	32	59
48 x 24	1200 x 600	24 x 24	6, 8, 10, 12, 14, 15	1 1/4	2 5/16	600 x 600	152, 203, 254, 305, 356, 381	32	59

* Supplied with a reducer.

DESCRIPTION:

1. Material: Heavy gauge, corrosion-resistant steel.
2. The diffuser delivers the air in a true 360° radial horizontal pattern. Designed to minimize smudging and streaking of ceiling.
3. Excellent for VAV systems. The uniform near horizontal jets from the louvered cones maintain effective air motion over a considerable range of air volumes.
4. The models consist of four die-formed concentric cones in all sizes which eliminate mitered corners and provide uniform appearance in all neck sizes.
5. A spring clip arrangement permits quick, easy installation and removal of the inner cone assembly.
6. Diffuser has a removable plug for screwdriver adjustment of the optional damper without removing the inner core.
7. Standard finish is AW Appliance White.

OPTIONS:

- EX External Foil-Back Insulation, installed - R-4.2 (24 x 24 max.)
- EXB External Foil-Back Insulation, ships loose - R-4.2 (24 x 24 max.)
- EIC Extended Inlet Collar (2.25") with bead
- EQT Earthquake Tabs
- Finish:
- SP Special. Specify _____ .
- QB Quadrant Blanks:
- QB3 3-Way Blow
- QC2 2-Way Corner Blow
- QB2 2-Way Opposite Blow
- QB1 1-Way Blow

SCHEDULE TYPE:

PROJECT:

ENGINEER:

CONTRACTOR:

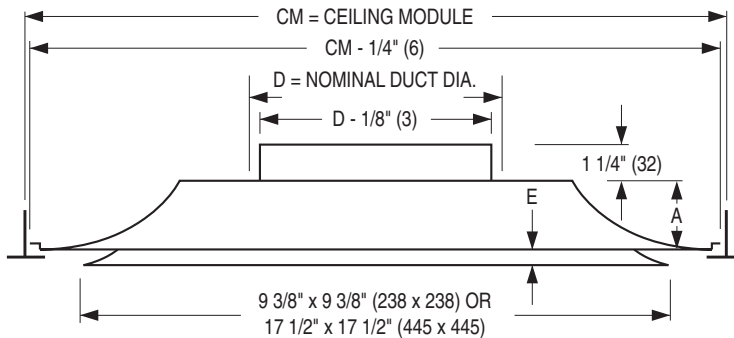
Dimensions are in inches (mm).

DATE	B SERIES	SUPERSEDES	DRAWING NO.
4 - 20 - 17	RNS	3 - 10 - 16	4200-4A



SQUARE CEILING DIFFUSERS
STEEL • ROUND NECK • 2 CONE
MODEL: RNS2

TYPE L Lay-in T-Bar



Dimensional Data

Ceiling Module CM		Imperial Units (inches)				Metric Units (mm)					
Imperial Modules	Metric Modules	Duct Size D	A	B	E	F	Duct Size D	A	B	E	F
12 x 12	300 x 300	6, 8	1	11	1 5/16	13	152, 203	25	279	33	330
24 x 24	600 x 600	6, 8, 10, 12, 14, 15	2 5/16	22	15/16	24 3/4	152, 203, 254, 305, 356, 381	59	519	24	629

DESCRIPTION:

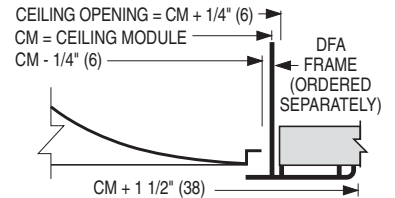
1. Material: Corrosion-resistant steel.
2. The RNS2 Diffuser has been specially designed to provide the mechanical engineer with the most cost-effective engineered diffuser currently available in the industry. It combines the high performance expected from a louvered face type ceiling diffuser with a cost as low as any lesser performing commercial diffuser currently available.
3. The diffuser has a 360 degree diffusion pattern at minimum NC levels required for high engineering performance. The diffuser provides stable diffusion and mixing patterns under constant and changing load conditions. It can accommodate a turn down of 80% without losing the ceiling coanda effect and dumping. Excellent for VAV systems.
4. The diffuser consists of stamped one-piece cones which eliminates mitered corners and the die-formed curves provide consistent quality and performance.
5. Inner cone assembly is not removable which may complicate surface mount installation in hard ceilings.
6. Diffuser has a removable plug for screwdriver adjustment of the optional damper.
7. Standard finish is AW Appliance White.

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:
- SP Special. Specify _____ .

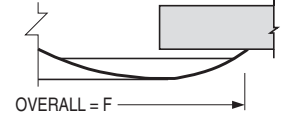
TYPE L Surface Mount With DFA

Drywall/Plaster frame. Recommended for flexible duct connection and ceiling access



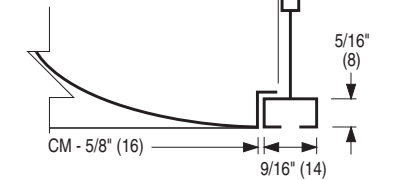
TYPE S Surface Mount

CEILING OPENING = CM - 1\"/>



TYPE F Finline®

CEILING OPENING = CM - 1/4\"/>



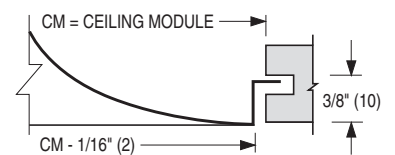
TYPE M Metal Pan (Snap-in)

CEILING OPENING = CM - 1/16\"/>



TYPE SP Spline

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



Finline® is a registered trademark of USG Interiors Inc.

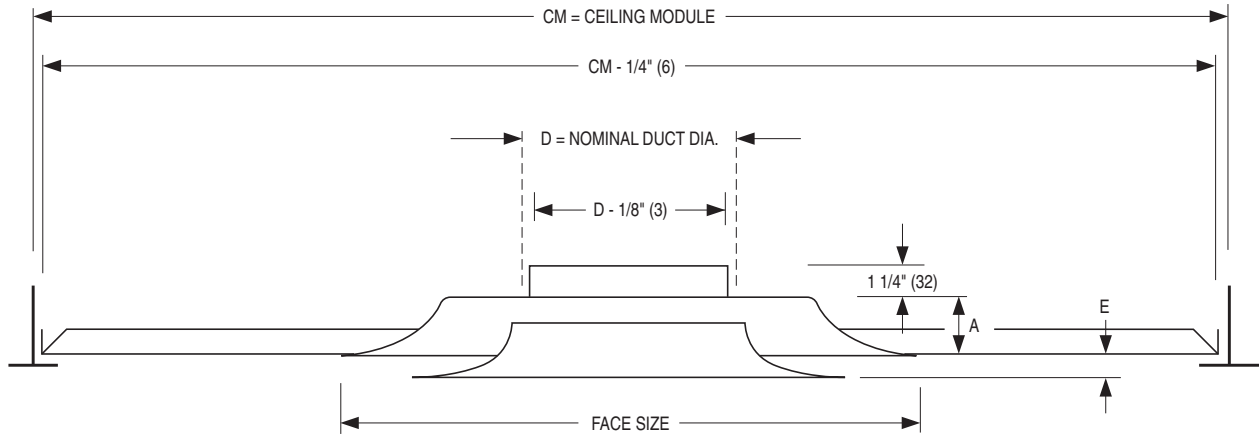
SCHEDULE TYPE:				
PROJECT:				
ENGINEER:	DATE	B SERIES	SUPERSEDES	DRAWING NO.
CONTRACTOR:	1 - 24 - 17	RNS2	3 - 22 - 16	4600-1

Dimensions are in inches (mm).



SQUARE CEILING DIFFUSERS
 PANEL MOUNTED • STEEL
 ROUND NECK • 2 CONE
MODEL: RNS2 TYPE PL

TYPE PL Panel Mounted Lay-in T-Bar



Dimensional Data

Ceiling Module CM		Imperial Units (inches)				Metric Units (mm)			
Imperial Modules	Metric Modules	Face Size	Duct Size D	A	E	Face Size	Duct Size D	A	E
24 x 24	600 x 600	12 x 12	6, 8	1	1 5/16	300 x 300	152, 203	25	33
24 x 12	600 x 300								
20 x 20	500 x 500								

DESCRIPTION:

1. Material: Corrosion-resistant steel.
2. The RNS2 Diffuser has been specially designed to provide the mechanical engineer with the most cost-effective engineered diffuser currently available in the industry. It combines the high performance expected from a louvered face type ceiling diffuser with a cost as low as any lesser performing commercial diffuser currently available.
3. The diffuser has a 360 degree diffusion pattern at minimum NC levels required for high engineering performance. The diffuser provides stable diffusion and mixing patterns under constant and changing load conditions. It can accommodate a turn down of 80% without losing the ceiling coanda effect and dumping. Excellent for VAV systems.
4. The diffuser consists of stamped one-piece cones which eliminates mitered corners and the die-formed curves provide consistent quality and performance.
5. Inner cone assembly is not removable which may complicate surface mount installation in hard ceilings.
6. Diffuser has a removable plug for screwdriver adjustment of the optional damper.
7. Standard finish is AW Appliance White.

OPTIONS:

- EX External Foil-Back Insulation, installed - R-4.2 (24 x 24 max.)
 - EXB External Foil-Back Insulation, ships loose - R-4.2 (24 x 24 max.)
 - EQT Earthquake Tabs
- Finish:
- SP Special. Specify _____ .

SCHEDULE TYPE:

PROJECT:

ENGINEER:

CONTRACTOR:

Dimensions are in inches (mm).

DATE

B SERIES

SUPERSEDES

DRAWING NO.

3 - 22 - 16

RNS2

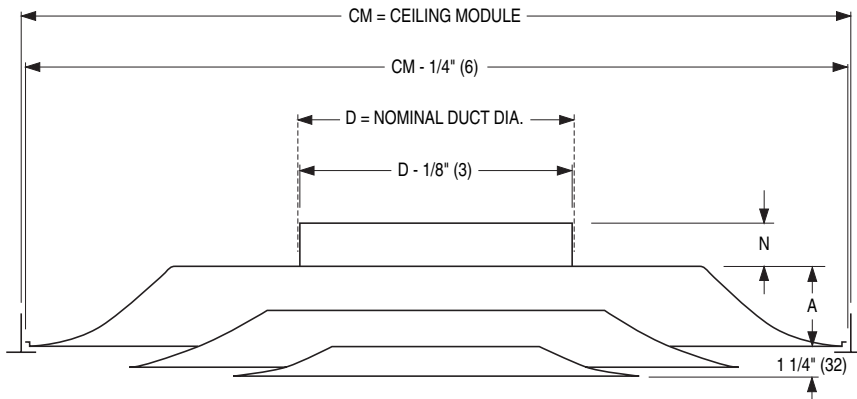
10 - 31 - 07

4600-2



SQUARE CEILING DIFFUSERS
FIXED PATTERN • LOUVERED FACE
ALUMINUM • ROUND NECK • 3 CONE
MODEL: ARNS3

TYPE L Lay-in T-Bar

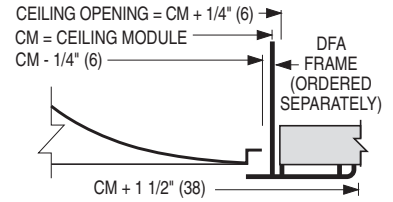


Dimensional Data

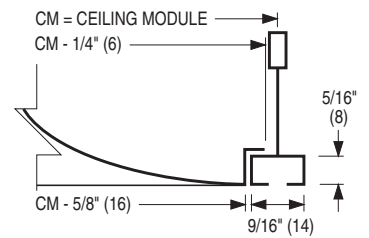
Ceiling Module CM		Imperial Units (inches)				Metric Units (mm)			
Imperial Modules	Metric Modules	Duct Size D	N	A	B	Duct Size D	N	A	B
24 x 24	600 x 600	6, 8, 10, 12, 14, 15	1 1/4	2 5/16	22	152, 203, 254, 305, 356, 381	32	59	559

TYPE L Surface Mount With DFA

Drywall/Plaster frame. Recommended for flexible duct connection and ceiling access.



TYPE F Fineline®



DESCRIPTION:

1. Material: Aluminum construction with corrosion-resistant steel neck bracketry.
2. The diffuser delivers the air in a true 360° radial horizontal pattern. Designed to minimize smudging and streaking of ceiling.
3. Excellent for VAV systems. The uniform near horizontal jets from the louvered cones maintain effective air motion over a considerable range of air volumes.
4. The models consist of three die-formed concentric cones in all sizes which eliminate mitered corners and provide uniform appearance in all neck sizes.
5. The inner cone assembly is held in place by four hook corner posts that positively engage into slots in the backpan. The core can be removed from the backpan for diffuser installation.
6. Diffuser has a removable plug for screwdriver adjustment of the optional damper.
7. Standard finish is AW Appliance white.

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
- EQT Earthquake Tabs

Finish:

- SP Special. Specify _____ .

QB Quadrant Blanks:

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

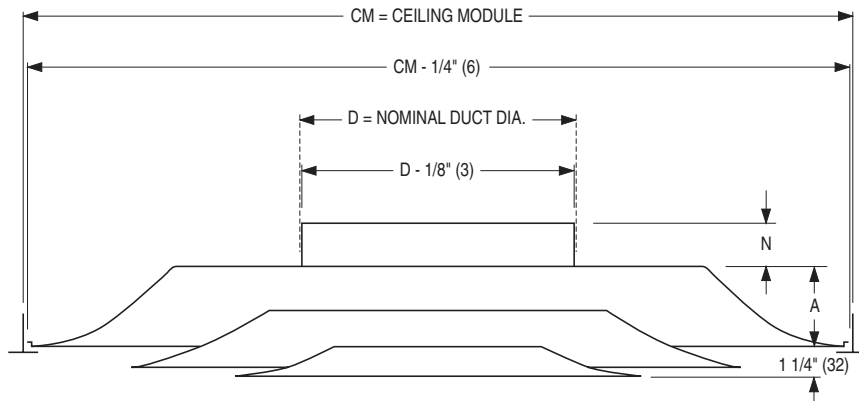
Fineline® is a registered trademark of USG Interiors Inc.

SCHEDULE TYPE:		Dimensions are in inches (mm).			
PROJECT:					
ENGINEER:	DATE				
CONTRACTOR:	2 - 16 - 21	RNS	1 - 24 - 17R	ARNS3	



SQUARE CEILING DIFFUSERS
FIXED PATTERN • LOUVERED FACE
STEEL • ROUND NECK • 3 CONE
MODEL: RNS3

TYPE L Lay-in T-Bar



Dimensional Data

Ceiling Module CM		Imperial Units (inches)			Metric Units (mm)				
Imperial Modules	Metric Modules	Duct Size D	N	A	B	Duct Size D	N	A	B
24 x 24	600 x 600	6, 8, 10, 12, 14, 15	1 1/4	2 5/16	22	152, 203, 254, 305, 356, 381	32	59	559

DESCRIPTION:

1. Material: Heavy gauge, corrosion-resistant steel.
2. The diffuser delivers the air in a true 360° radial horizontal pattern. Designed to minimize smudging and streaking of ceiling.
3. Excellent for VAV systems. The uniform near horizontal jets from the louvered cones maintain effective air motion over a considerable range of air volumes.
4. The models consist of three die-formed concentric cones in all sizes which eliminate mitered corners and provide uniform appearance in all neck sizes.
5. The inner cone assembly is held in place by four hook corner posts that positively engage into slots in the backpan. The core can be removed from the backpan for diffuser installation.
6. Diffuser has a removable plug for screwdriver adjustment of the optional damper.
7. Standard finish is AW Appliance White.

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)
- EIC Extended Inlet Collar (2.25") with bead
- EQT Earthquake Tabs

Finish:

- SP Special. Specify _____.

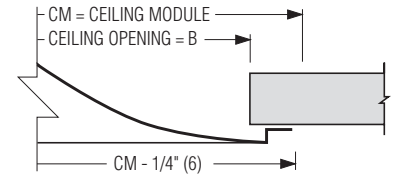
QB Quadrant Blanks:

- 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.

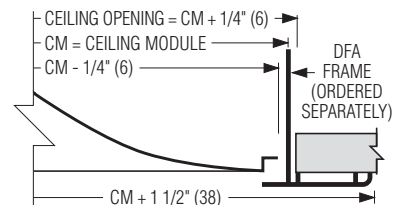
TYPE L Surface Mount

Hard duct connection recommended.

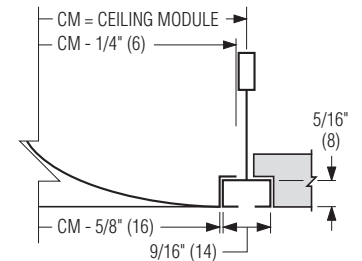


TYPE L Surface Mount With DFA

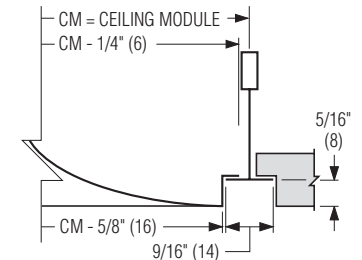
Drywall/Plaster frame. Recommended for flexible duct connection and ceiling access.



TYPE F Fineline® 9/16" Bolt Slot T-Bar



TYPE F Fineline® 9/16" Tegular T-Bar



SCHEDULE TYPE:

PROJECT:

ENGINEER:

CONTRACTOR:

Dimensions are in inches (mm).

DATE

B SERIES

SUPERSEDES

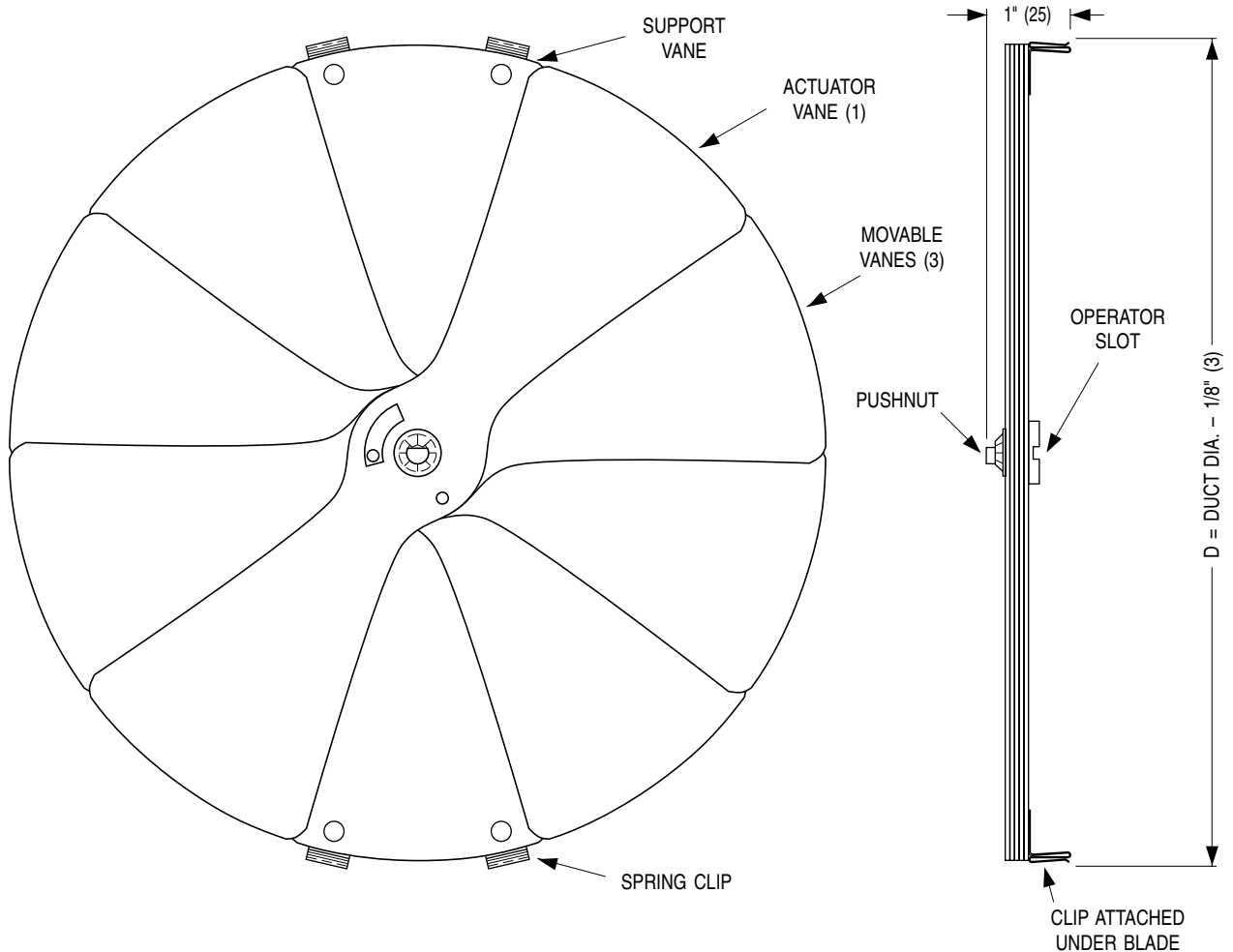
DRAWING NO.

10 - 29 - 19

RNS

4 - 20 - 17

RNS3


DESCRIPTION:

1. Material: Heavy gauge corrosion-resistant steel.
2. The Nailor Model 4250 is a neck mounted, radial sliding blade damper used in round neck diffuser applications to provide fine volume control.
3. Dampers have gang operated radial blades. Blades slide at right angles to the duct with protrusion above the diffuser neck, allowing the damper to work effectively in flexible duct applications.
4. The 4250 is neck mounted with steel barb clips providing secure attachment.
5. Adjustments are made at the screwdriver operator slot.
6. Available Sizes: 6", 8", 10", 12" and 14" (152, 203, 254, 305 and 356) dia..

SCHEDULE TYPE:
PROJECT:
ENGINEER:
CONTRACTOR:

Dimensions are in inches (mm).

DATE
B SERIES
SUPERSEDES
DRAWING NO.

10 - 24 - 01

ACC.DIF.

25 - 8 - 99R

ABD-4250



AIR BALANCING DEVICE RADIAL OPPOSED BLADE DAMPER STEEL • FOR ROUND NECK DIFFUSERS MODEL: 4275 (5" - 16" DIA.)

DESCRIPTION:

A unique method of controlling volume through a diffuser providing premium design quality and performance. The multi-blade perimeter design offers true radial flow at any setting.

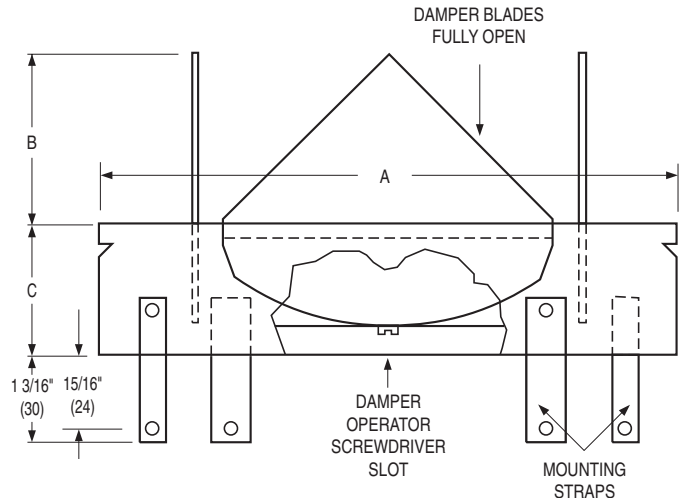
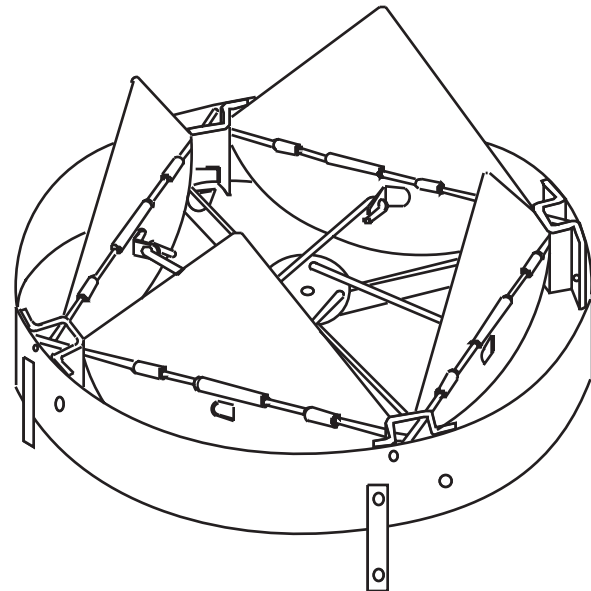
A screwdriver slot, accessible through the diffuser, requires only a half turn to adjust from fully closed to fully open. The damper is designed to fit directly on the neck of the diffuser. Simple convenient and accurate installation and operation.

OPERATION:

Size 5 through 8 are friction type. Use screwdriver and turn operator to adjust damper setting.

Size 10 through 16 use a detent mechanism to positively hold damper setting. Using screwdriver, lift up and turn operator to desired damper setting.

1. Material: Corrosion-resistant steel construction.
2. Damper mounts directly to diffuser collar.
3. Standard Finish: Mill.



	Nominal Size (inches)								Nominal Size (mm)							
	5	6	8	10	12	14	15	16	127	152	203	254	305	356	381	406
A	4 7/8	5 7/8	7 7/8	9 7/8	11 7/8	13 7/8	14 7/8	15 7/8	124	149	200	251	302	352	378	403
B	1 1/8	1 5/8	2 1/2	2 1/4	2 7/8	3 3/8	3 3/4	4 3/8	29	41	64	57	73	86	95	111
C	1 5/8				2 1/2				41				64			

SCHEDULE TYPE:

PROJECT:

ENGINEER:

CONTRACTOR:

Dimensions are in inches (mm).

DATE

B SERIES

SUPERSEDES

DRAWING NO.

8 - 29 - 05

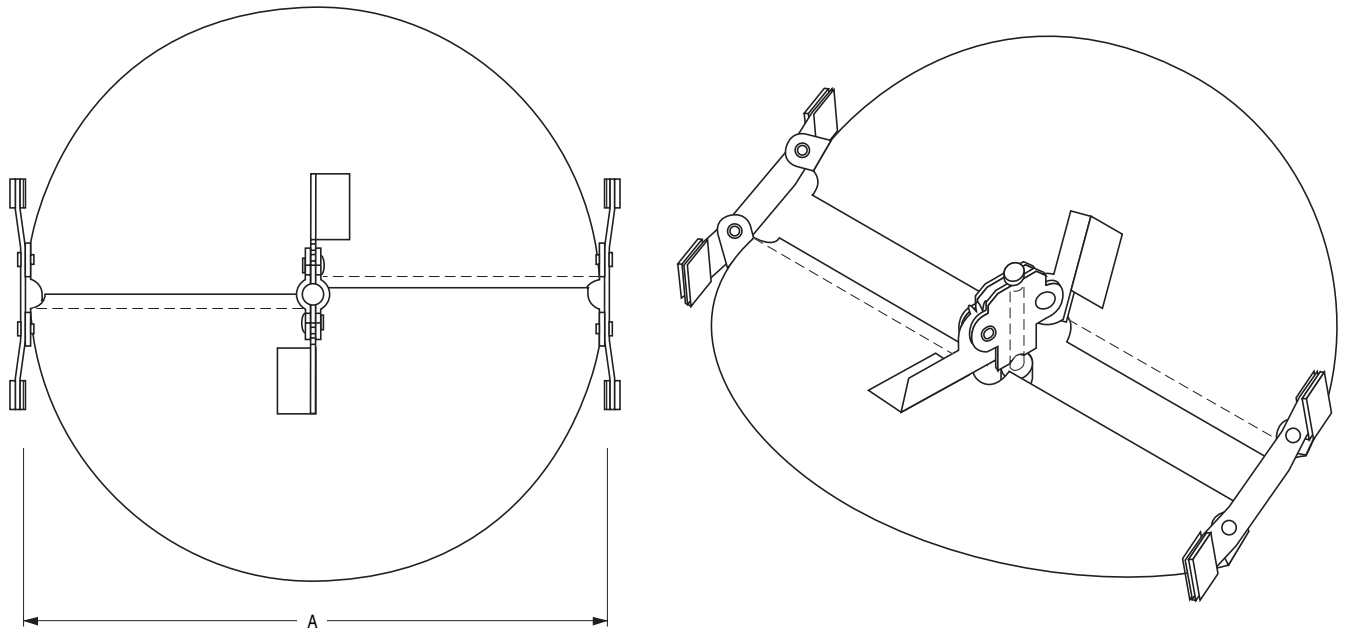
ABD

3 - 1 - 02

ABD-4275-1



**AIR BALANCING DEVICE
BUTTERFLY DAMPER
STEEL • FOR ROUND NECK DIFFUSERS
MODEL: 4675**

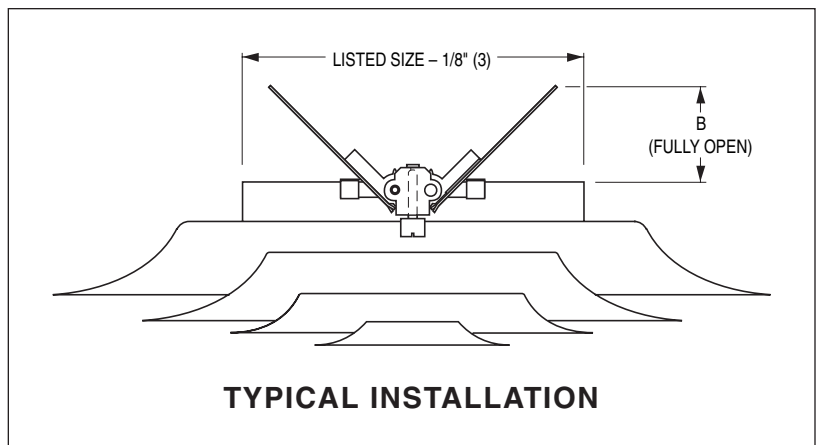


DESCRIPTION:

The Model 4675 Butterfly Damper is an economical damper for volume balancing in round neck diffusers. Adjustable friction pivots hold the blades at the required setting.

1. Material: Corrosion-resistant steel. Mill finish.
2. The 4675 damper mounts directly to diffuser collar. Not compatible with Model Series RNSA, RNR, RNRA1, 6300 or 6300R diffusers.
3. Screwdriver slot operator is adjustable from the face of the diffuser.

	Nominal Size (inches)					Nominal Size (mm)				
	6	8	10	12	14	152	203	254	305	356
A	5 7/8	7 7/8	9 7/8	11 7/8	13 7/8	149	200	251	302	352
B	2 1/2	3 1/2	4 1/2	5 1/2	6 1/2	64	89	114	140	165

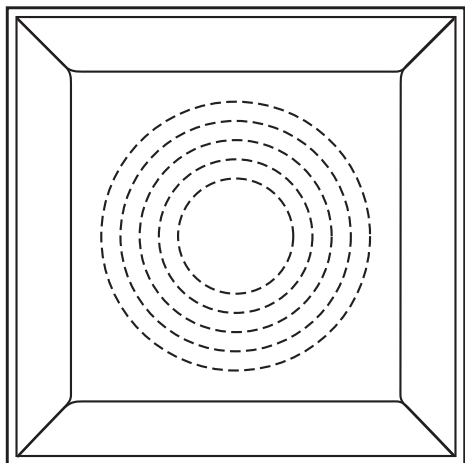
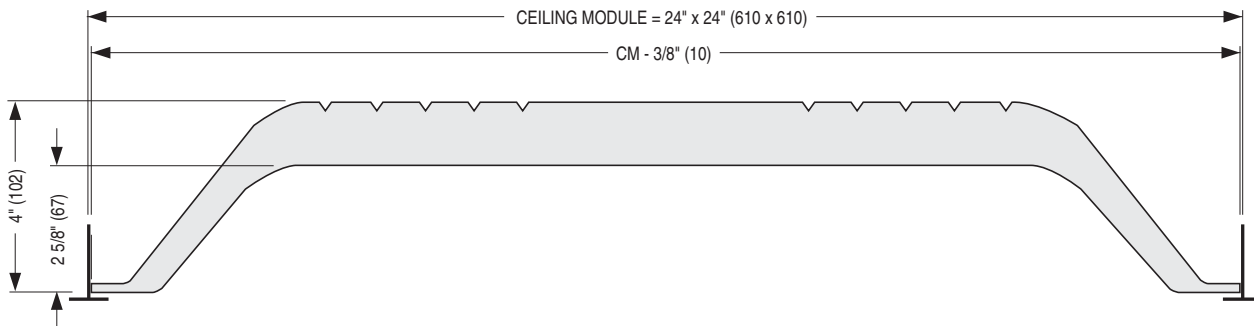


TYPICAL INSTALLATION

SCHEDULE TYPE:					Dimensions are in inches (mm).				
PROJECT:									
ENGINEER:					DATE	B SERIES	SUPERSEDES	DRAWING NO.	
CONTRACTOR:					11 - 14 - 08	ACC.DIF.	5 - 28 - 08	ABD-4675	



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



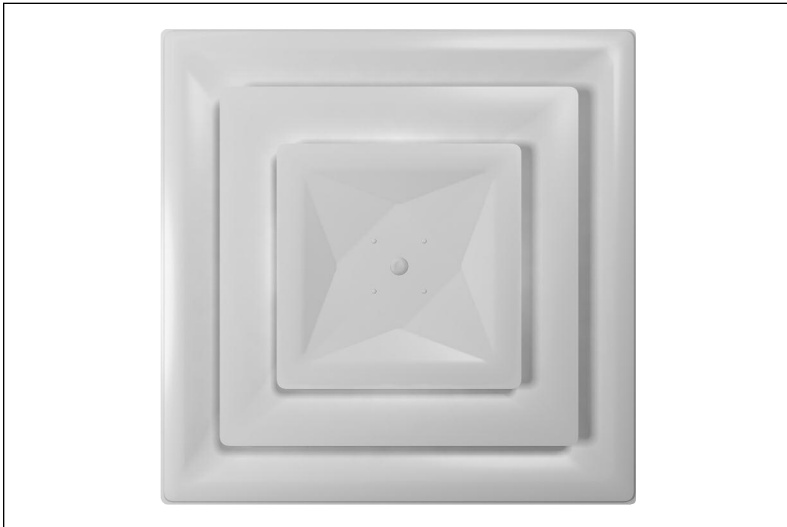
DESCRIPTION:

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	



QUADRANT BLANKS FOR MODELS RNS3 AND ARNS3 ROUND NECK DIFFUSERS
CEILING DIFFUSER ACCESSORY
MODEL/ACCESSORY: 4293/QB



Model 4293 Quadrant Blanks are designed specifically for use with the RNS3 Series Square Ceiling Diffusers. The Quadrant Blanks are constructed of steel with S-Clip brackets attached to the pie-shaped piece for insertion onto the diffuser neck collar in order to provide 1, 2, or 3-way discharge as required. Quadrant Blanks are available for all neck sizes, (to blank-off areas greater than 90° [3-way blow], multiple quantities must be ordered. 2-way blow requires a quantity of two and 1-way blow requires a quantity of three, per diffuser. Quadrant Blanks are shipped loose from the factory for trouble-free installation in the field [by others].

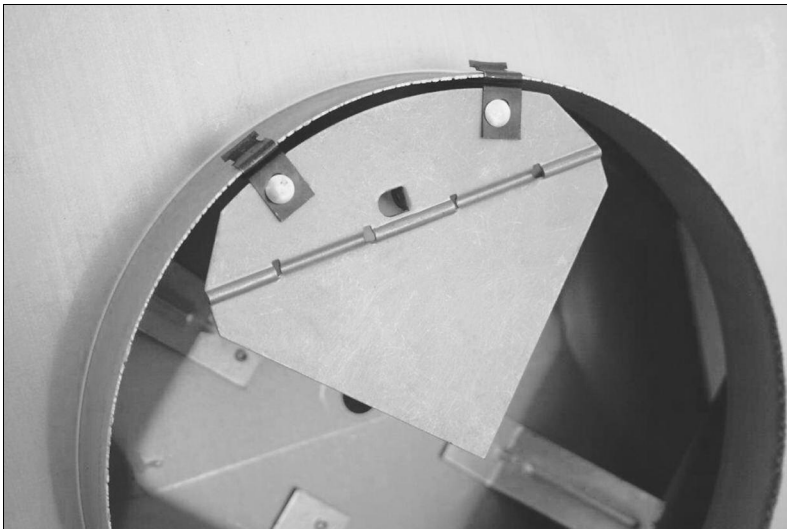
****Nailor recommends that ALL Quadrant Blanks are affixed prior to installation of the diffuser****

Required Items

1. Protective eyewear or safety glasses
2. Pair of work gloves

Installation Instructions

1. The steel, pie-shaped Quadrant Blanks with S-Clips are shipped loose from the factory and shall be installed in the field (by others).
2. Prior to installation, properly position the QB in the neck of the diffuser for desired directional blow. The round edge of the QB shall face the outside of the inlet, while the knife edge shall face the center of the inlet.
3. The S-Clips connected to the QB shall be securely pressed onto the neck of the diffuser. Once in place, the Quadrant Blank shall be held horizontally in place at the desired location.
4. For additional Quadrant Blank installation, please repeat steps 1 – 3.



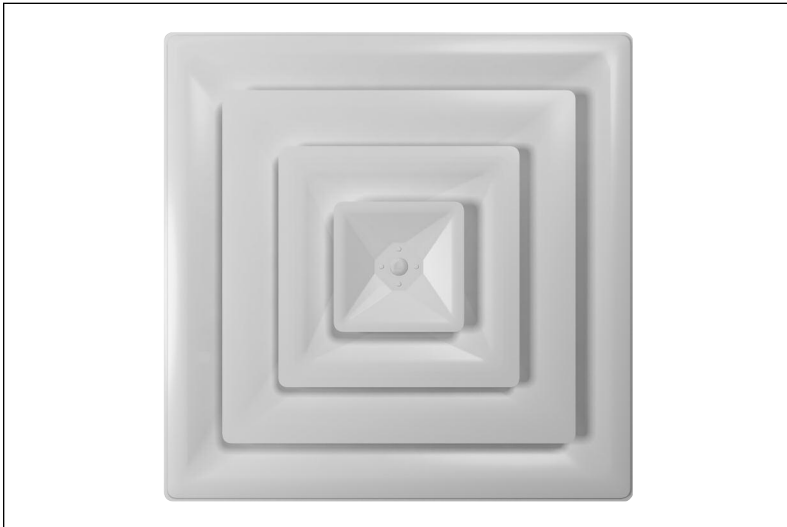
Quadrant Blanks
 4293 QB for Models RNS3, ARNS3 Round Neck Diffusers

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

SCHEDULE TYPE:		Dimensions are in inches (mm).			
PROJECT:					
ENGINEER:	DATE	B SERIES	SUPERSEDES	DRAWING NO.	
CONTRACTOR:	7 - 29 - 16	QB	NEW	QB-3	

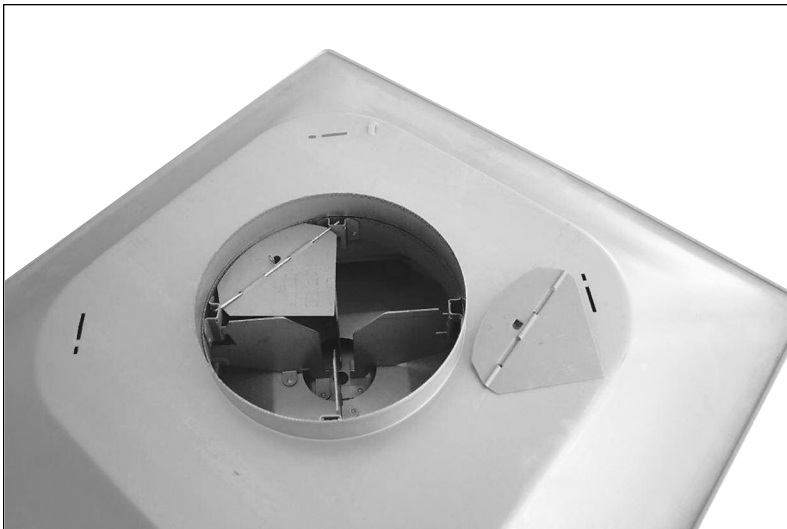


**QUADRANT BLANKS FOR MODEL SERIES
RNS AND RNSA ROUND NECK DIFFUSERS
CEILING DIFFUSER ACCESSORY
MODEL/ACCESSORY: 4295/QB**



Model 4295 Quadrant Blanks are designed specifically for use with the RNS Series Stamped Square Ceiling Diffusers. The Quadrant Blanks are constructed of steel, featuring a pie-shaped piece with a hinge pin that is pre-installed through pre-set holes in the diffuser, providing 1, 2, or 3-way discharge as required. Quadrant Blanks are available in all neck sizes, (to blank-off areas greater than 90° [3-way blow], multiple quantities must be ordered. 2-way blow requires a quantity of two and 1-way blow requires a quantity of three, per diffuser. Quadrant Blanks are shipped loose from the factory for trouble-free installation in the field [by others]).

Nailor recommends that ALL Quadrant Blanks are affixed prior to installation of the diffuser

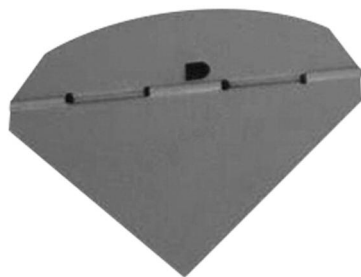


Required Items

1. Protective eyewear or safety glasses
2. Pair of work gloves

Installation Instructions

1. The steel, pie-shaped Quadrant Blank is shipped loose with a hinge pin pre-installed through pre-set holes, to provide trouble-free installation, in the field (by others).
2. Prior to installation, properly position the QB around the neck of the diffuser for desired directional blow. The elevated eyehole located above the hinged pin on the quadrant blank, shall be facing in the upright position before the piece is installed in the diffuser. The round edge of the QB shall face the outside of the inlet collar, while the knife edge shall face the center of the inlet.
3. The hinge pins on the QB shall slide securely into the pre-set holes of the riveted neck bracketry located in the diffuser inlet collar. Once in place, the knife edge of the QB shall rest on top of the concealed neck bracketry.
4. For additional Quadrant Blank installation, repeat steps 1 – 3.



Quadrant Blanks
4295 QB for Models RNS, ARNS, RNS2, RNSA1, RNSA2, ARNSA Round Neck Diffusers

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

SCHEDULE TYPE:		Dimensions are in inches (mm).			
PROJECT:					
ENGINEER:	DATE	B SERIES	SUPERSEDES	DRAWING NO.	
CONTRACTOR:	7 - 29 - 16	QB	NEW	QB-4	

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

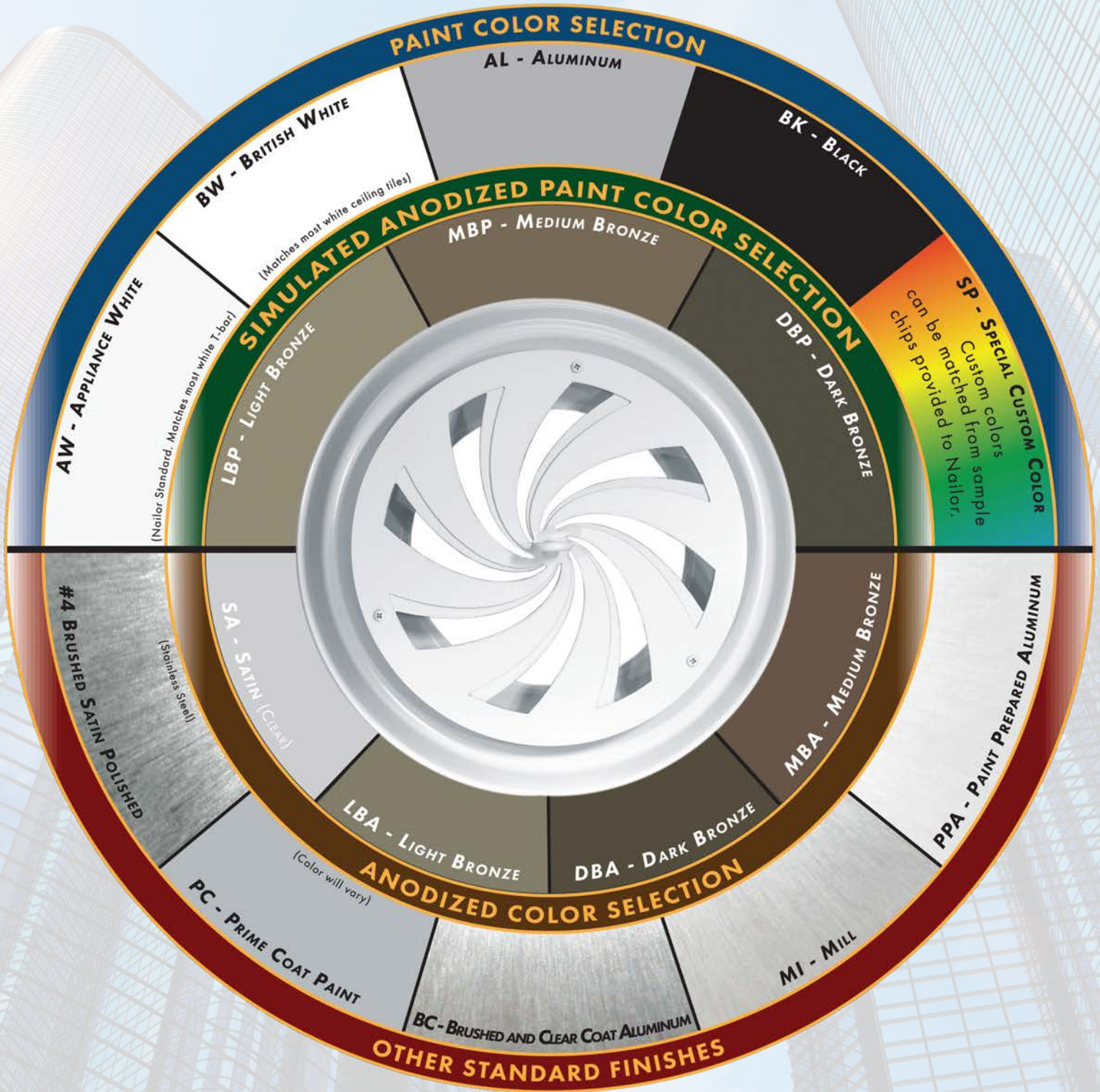
Surface is left untreated and requires cleaning, degreasing, etc. in the field before final finish can be applied if required.



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.

"Complete Air Control and Distribution Solutions."

WGDSOF2015

www.nailor.com

PERFORMANCE DATA:

Models RNS and ARNS • 12 x 12 (300 x 300) Face Size

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
4" Dia.	Total Pressure	.014	.022	.032	.043	.056	.071	.088	.126	.172	.224
	Airflow, CFM	35	44	52	61	70	79	87	105	122	140
	Throw	1-2-4	2-2-5	2-3-5	2-3-6	2-4-7	3-4-7	3-5-7	4-5-8	4-6-9	5-7-9
	Noise Criteria	—	—	—	—	—	11	19	25	30	35
5" Dia.	Total Pressure	.017	.026	.038	.051	.067	.085	.105	.151	.206	.269
	Airflow, CFM	55	68	82	95	109	123	136	164	191	218
	Throw	2-2-5	2-3-6	2-4-6	2-4-7	2-5-8	3-6-9	4-6-9	5-7-10	5-8-11	6-8-11
	Noise Criteria	—	—	—	—	—	14	22	28	33	38
6" Dia.	Total Pressure	.018	.029	.043	.060	.079	.100	.128	.175	.250	.325
	Airflow, CFM	80	100	120	140	160	180	200	235	275	315
	Throw	1-2-4	1-2-5	1-3-6	2-3-6	2-4-8	3-4-8	3-4-10	4-5-10	4-6-14	5-8-14
	Noise Criteria	—	—	11	16	20	22	24	31	38	41
7" Dia.	Total Pressure	.022	.035	.050	.068	.089	.112	.138	.199	.271	.354
	Airflow, CFM	107	134	160	187	214	241	267	321	374	428
	Throw	2-4-8	3-5-9	4-6-10	4-7-11	5-8-12	5-9-13	6-10-14	7-10-14	9-11-15	10-12-16
	Noise Criteria	—	—	12	17	20	24	27	33	39	42
8" Dia.	Total Pressure	.031	.047	.065	.087	.110	.140	.168	.235	.310	.395
	Airflow, CFM	140	175	210	245	280	315	350	420	490	560
	Throw	3-5-9	4-5-11	5-7-13	5-8-14	6-9-14	6-10-15	7-11-16	8-12-17	10-13-18	11-14-18
	Noise Criteria	—	—	13	18	22	26	29	35	40	44

Models RNS and ARNS • 20 x 20 (500 x 500) Face Size

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
6" Dia.	Total Pressure	.015	.023	.033	.045	.058	.074	.091	.130	.176	.230
	Airflow, CFM	80	100	120	140	160	180	200	235	275	315
	Throw	1-1-3	1-2-4	1-2-4	1-3-5	2-3-6	2-3-6	2-4-7	3-5-8	3-5-8	4-6-9
	Noise Criteria	—	—	14	18	21	26	29	34	38	41
8" Dia.	Total Pressure	.018	.028	.041	.055	.072	.091	.112	.161	.219	.286
	Airflow, CFM	140	175	210	245	280	315	350	420	490	560
	Throw	1-2-5	2-3-6	2-4-6	3-4-7	3-5-7	4-5-8	4-6-8	5-6-9	6-7-10	6-8-11
	Noise Criteria	—	11	16	20	23	28	31	36	40	43
10" Dia.	Total Pressure	.023	.036	.052	.071	.092	.117	.144	.207	.281	.367
	Airflow, CFM	220	270	330	380	435	490	545	655	765	870
	Throw	2-4-6	3-4-7	4-5-8	4-6-9	5-6-9	5-7-10	6-7-10	6-8-11	7-9-12	8-9-13
	Noise Criteria	—	13	18	22	25	30	33	38	42	45

Performance Notes:

- Throws are given at 150, 100 and 50 fpm terminal velocities, under isothermal conditions.
- All pressures are in inches w.g..
- The addition of quadrant blanks reduces the effective area and for a given air volume, increases the discharge velocity. This will result in an increase in throw, pressure drop and sound level. To determine throw, select the diffuser as if it were supplying a larger volume of air. The table shows the percentage increase required to determine selection of diffuser size and throw. To correct pressure drop and Noise Criteria, use correction factors as shown for 4-way blow values.

- Noise Criteria (NC) are based on a room absorption of 10 dB, re 10⁻¹² watts. Dash (—) in space denotes an Noise Criteria level less than 10.
- Data derived from independent tests conducted in accordance with ANSI/ASHRAE Standard 70-2006.

Neck Size Diameter in Inches	Nominal Overall Face Size	Ak Factor
6	12 x 12	.131
8	12 x 12	.202
6	24 x 24	.180
8	24 x 24	.227
10	24 x 24	.331
12	24 x 24	.450
14	24 x 24	.511
15	24 x 24	.625

Quadrant Blanks (Blow)	% Increase in Air Volume for Throw Determination	% Increase in Static Pressure Drop	NC Sound Level Increase
1 (3-way)	35	125	8
2 (2-way)	100	450	19

PERFORMANCE DATA:

Models RNS and ARNS • 24 x 24 (600 x 600) Face Size

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
6" Dia.	Total Pressure	.015	.023	.035	.045	.060	.076	.095	.135	.186	.240
	Airflow, CFM	80	100	120	140	160	180	200	235	275	315
	Throw	1-1-4	1-2-5	1-2-6	1-3-7	2-4-9	2-5-9	3-6-11	3-6-12	4-7-14	6-8-15
	Noise Criteria	—	—	—	13	17	21	24	27	32	36
8" Dia.	Total Pressure	.021	.033	.047	.063	.082	.105	.128	.183	.245	.325
	Airflow, CFM	140	175	210	245	280	315	350	420	490	560
	Throw	1-1-5	1-2-6	1-3-8	2-4-8	3-5-10	3-6-10	4-6-13	5-8-13	6-8-16	7-10-17
	Noise Criteria	—	—	13	17	20	25	28	33	37	40
10" Dia.	Total Pressure	.024	.037	.047	.074	.097	.123	.150	.215	.293	.372
	Airflow, CFM	220	270	330	380	435	490	545	655	765	870
	Throw	1-3-6	2-4-8	3-5-9	4-6-12	5-6-12	5-7-14	6-9-15	6-10-15	8-13-17	9-13-18
	Noise Criteria	—	11	16	20	23	28	31	36	40	43
12" Dia.	Total Pressure	.026	.039	.057	.075	.097	.127	.150	.245	.310	.410
	Airflow, CFM	315	390	470	550	630	705	785	990	1100	1255
	Throw	2-3-7	3-4-9	3-5-10	4-6-13	5-7-13	5-8-15	5-8-16	7-9-18	9-11-18	10-12-19
	Noise Criteria	—	13	18	21	24	29	32	37	41	44
14" Dia.	Total Pressure	.030	.050	.070	.100	.110	.160	.200	.240	.390	.490
	Airflow, CFM	425	530	635	745	850	955	1060	1270	1490	1695
	Throw	3-4-9	4-5-11	4-7-13	5-7-16	6-9-16	7-11-16	7-11-19	9-13-19	11-16-19	11-16-27
	Noise Criteria	—	14	19	22	25	29	32	37	42	45
15" Dia.	Total Pressure	.033	.054	.072	.100	.127	.163	.204	.280	.395	.500
	Airflow, CFM	490	615	735	860	985	1110	1230	1470	1720	1970
	Throw	5-7-10	6-8-11	7-9-14	8-10-17	8-13-18	10-15-19	11-16-22	12-18-27	13-20-32	15-22-34
	Noise Criteria	—	15	20	23	26	30	33	38	43	46

Performance Notes:

1. Throws are given at 150, 100 and 50 fpm terminal velocities, under isothermal conditions.
2. All pressures are in inches w.g..
3. The addition of quadrant blanks reduces the effective area and for a given air volume, increases the discharge velocity. This will result in an increase in throw, pressure drop and sound level. To determine throw, select the diffuser as if it were supplying a larger volume of air. The table shows the percentage increase required to determine selection of diffuser size and throw. To correct pressure drop and Noise Criteria, use correction factors as shown for 4-way blow values.

4. Noise Criteria (NC) are based on a room absorption of 10 dB, re 10⁻¹² watts. Dash (—) in space denotes an Noise Criteria level less than 10.
5. Data derived from independent tests conducted in accordance with ANSI/ASHRAE Standard 70-2006.

Neck Size Diameter in Inches	Nominal Overall Face Size	Ak Factor
6	12 x 12	0.131
8	12 x 12	0.202
6	24 x 24	0.180
8	24 x 24	0.227
10	24 x 24	0.331
12	24 x 24	0.450
14	24 x 24	0.511
15	24 x 24	0.625

Quadrant Blanks (Blow)	% Increase in Air Volume for Throw Determination	% Increase in Static Pressure Drop	NC Sound Level Increase
1 (3-way)	35	125	8
2 (2-way)	100	450	19

PERFORMANCE DATA:

Model RNS2 • 12 x 12 (300 x 300) Face Size

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
6" Dia.	Total Pressure	.021	.032	.045	.060	.080	.100	.120	.167	.220	.290
	Airflow, CFM	80	100	120	140	160	180	200	235	275	315
	Throw	1-2-6	2-3-8	2-4-10	3-5-11	3-6-12	4-7-13	5-9-14	7-10-15	8-11-17	9-13-18
	Noise Criteria	—	—	—	—	—	—	—	14	24	34
8" Dia.	Total Pressure	.025	.037	.052	.070	.091	.113	.138	.195	.260	.340
	Airflow, CFM	140	175	210	245	280	315	350	420	490	560
	Throw	2-4-10	3-6-13	4-8-15	5-9-16	7-11-17	8-12-19	9-14-20	11-16-22	13-17-23	15-18-26
	Noise Criteria	—	—	—	—	—	—	10	19	27	34

Model RNS2 • 24 x 24 (600 x 600) Face Size

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
6" Dia.	Total Pressure	.026	.040	.058	.080	.104	.131	.190	.262	.350	.500
	Airflow, CFM	80	100	120	140	160	180	200	235	275	315
	Throw	1-2-4	1-2-5	2-2-6	2-3-7	2-4-8	2-4-9	3-5-9	4-6-10	5-7-12	6-8-13
	Noise Criteria	—	—	—	11	14	18	21	27	33	38
8" Dia.	Total Pressure	.043	.065	.092	.125	.165	.210	.257	.400	.540	.740
	Airflow, CFM	140	175	210	245	280	315	350	420	490	560
	Throw	1-3-5	2-3-6	2-4-7	3-4-8	3-5-9	4-5-10	5-6-11	6-7-13	6-8-14	7-9-15
	Noise Criteria	—	11	16	20	23	27	30	37	42	47
10" Dia.	Total Pressure	.045	.069	.098	.137	.176	.225	.274	.421	.568	.774
	Airflow, CFM	220	270	330	380	435	490	545	655	765	870
	Throw	1-3-6	2-3-7	2-4-8	3-4-10	4-5-11	5-6-12	5-7-13	6-8-14	7-9-15	8-10-16
	Noise Criteria	10	15	20	24	28	32	35	40	45	50
12" Dia.	Total Pressure	.046	.070	.100	.140	.180	.230	.280	.430	.580	.790
	Airflow, CFM	315	390	470	550	630	705	785	990	1100	1255
	Throw	3-4-7	4-5-9	4-6-10	5-7-11	6-8-12	7-9-13	7-10-14	8-11-15	9-12-16	10-13-17
	Noise Criteria	11	16	21	25	29	33	36	41	46	51
14" Dia.	Total Pressure	.047	.072	.104	.145	.185	.240	.285	.440	.590	.805
	Airflow, CFM	425	530	635	745	850	955	1060	1270	1490	1695
	Throw	3-4-7	4-5-9	4-6-10	5-7-11	6-8-12	7-9-13	7-10-14	8-11-15	9-12-16	10-13-17
	Noise Criteria	13	18	23	27	31	34	37	43	53	57
15" Dia.	Total Pressure	.048	.075	.110	.150	.195	.250	.300	.455	.610	.825
	Airflow, CFM	490	615	735	860	985	1110	1230	1470	1720	1970
	Throw	4-5-8	4-6-10	5-7-11	6-8-12	6-9-13	7-10-14	8-10-15	9-12-16	10-13-17	11-14-18
	Noise Criteria	14	19	24	29	32	36	39	45	56	60

Performance Notes:

1. Throws are given at 150, 100 and 50 fpm terminal velocities under isothermal conditions.

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

3. Noise Criteria (NC) values are based upon 10dB room absorption, re 10⁻¹² watts. Dash (—) in space indicates an Noise Criteria of less than 15.

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

Neck Size Diameter in Inches	Nominal Overall Face Size	Ak Factor
6	12 x 12	.157
8	12 x 12	.232
6	24 x 24	.185
8	24 x 24	.226
10	24 x 24	.285
12	24 x 24	.382
14	24 x 24	.505
15	24 x 24	.577

PERFORMANCE DATA:

Models RNS3 and ARNS3 • 24 x 24 (600 x 600) Face Size

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
6" Dia.	Total Pressure	.017	.027	.038	.052	.068	.086	.106	.153	.208	.272
	Airflow, CFM	80	100	120	140	160	180	200	235	275	315
	Throw	1-1-4	1-2-5	1-2-6	1-3-7	2-4-9	2-5-9	3-6-11	3-6-12	4-7-14	6-8-15
	Noise Criteria	—	—	—	—	16	19	23	29	34	37
8" Dia.	Total Pressure	.019	.029	.042	.057	.075	.095	.117	.169	.230	.300
	Airflow, CFM	140	175	210	245	280	315	350	420	490	560
	Throw	1-1-5	1-2-6	1-3-8	2-4-8	3-5-10	3-6-10	4-6-13	5-8-13	6-8-16	7-10-17
	Noise Criteria	—	—	—	15	19	22	26	32	37	40
10" Dia.	Total Pressure	.021	.032	.046	.063	.083	.104	.129	.186	.253	.330
	Airflow, CFM	220	270	330	380	435	490	545	655	765	870
	Throw	1-3-6	2-4-8	3-5-9	4-6-12	5-6-12	5-7-14	6-9-15	6-10-15	8-13-17	9-13-18
	Noise Criteria	—	—	—	17	22	25	29	35	39	43
12" Dia.	Total Pressure	.023	.036	.052	.071	.093	.118	.146	.210	.286	.373
	Airflow, CFM	315	390	470	550	630	705	785	990	1100	1255
	Throw	2-3-7	3-4-9	3-5-10	4-6-13	5-7-13	5-8-15	5-8-16	7-9-18	9-11-18	10-12-19
	Noise Criteria	—	—	15	20	25	28	31	37	41	44
14" Dia.	Total Pressure	.027	.042	.060	.082	.107	.136	.168	.241	.328	.429
	Airflow, CFM	425	530	635	745	850	955	1060	1270	1490	1695
	Throw	3-4-9	4-5-11	4-7-13	5-7-16	6-9-16	7-11-16	7-11-19	9-13-19	11-16-19	11-16-27
	Noise Criteria	—	—	19	24	27	31	34	39	43	47
15" Dia.	Total Pressure	.029	.045	.065	.089	.116	.147	.182	.262	.356	.465
	Airflow, CFM	490	615	735	860	985	1110	1230	1470	1720	1970
	Throw	5-7-10	6-8-11	7-9-14	8-10-17	8-13-18	10-15-19	11-16-22	12-18-27	13-20-32	15-22-34
	Noise Criteria	—	15	21	25	28	32	35	40	44	48

Performance Notes:

- Throws are given at 150, 100 and 50 fpm terminal velocities under isothermal conditions.
- If the diffuser is mounted on an exposed duct, multiply throw values by x 0.70.
- All pressures are in inches w.g.. To obtain static pressure, subtract the velocity pressure from the total pressure.
- The addition of quadrant blanks reduces the effective area and for a given air volume, increases the discharge velocity. This will result in an increase in throw, pressure drop and sound level. To determine throw, select the diffuser as if it were supplying a larger volume of air. The table shows the percentage increase required to determine selection of diffuser size and throw. To correct pressure drop and Noise Criteria, use correction factors as shown for 4-way blow values.

- Noise Criteria (NC) values are based upon 10dB room absorption, re 10⁻¹² watts. Dash (—) in space indicates an Noise Criteria of less than 15.
- Data derived from tests conducted in accordance with ANSI/ASHRAE Standard 70 – 2006.

Neck Size Diameter in Inches	Nominal Overall Face Size	Ak Factor
6	24 x 24	0.16
8	24 x 24	0.26
10	24 x 24	0.37
12	24 x 24	0.49
14	24 x 24	0.62
15	24 x 24	0.68

Quadrant Blanks (Blow)	% Increase in Air Volume for Throw Determination	% Increase in Static Pressure Drop	NC Sound Level Increase
1 (3-way)	35	125	8
2 (2-way)	100	450	19

Performance Data – Metric

Model RNS3 • 610 x 610 (600 x 600) Face Size

Nominal Neck Size (mm)	Neck Velocity, M/S	2.04	2.54	3.05	3.56	4.07	4.58	5.08	6.1	7.12	8.13
	VP	2	4	6	8	10	13	16	22	30	40
152 Dia.	TP	4	7	9	13	17	21	26	38	52	68
	Airflow, L/S	38	47	57	66	76	85	94	111	130	149
	T	.3-.3-1.2	.3-.6-1.5	.3-.6-1.8	.3-.9-2.1	.6-1.2-2.7	.6-1.5-2.7	.9-1.8-3.4	.9-1.8-3.7	1.2-2.1-4.3	1.8-2.4-4.6
	NC	—	—	—	—	16	19	23	29	34	37
203 Dia.	TP	5	7	10	14	19	24	29	42	57	75
	Airflow, L/S	66	83	99	116	132	149	165	198	231	264
	T	.3-.3-1.5	.3-.6-1.8	.3-.9-2.4	.6-1.2-2.4	.9-1.5-3.1	.9-1.8-3.1	1.2-1.8-4	1.5-2.4-4	1.8-2.4-4.9	2.1-3.1-5.2
	NC	—	—	—	15	19	22	26	32	37	40
254 Dia.	TP	5	8	11	16	21	26	32	46	63	82
	Airflow, L/S	104	127	156	179	205	231	257	309	361	411
	T	.3-.9-1.8	.6-1.2-2.4	.9-1.5-2.7	1.2-1.8-3.7	1.5-1.8-3.7	1.5-2.1-4.3	1.8-2.7-4.6	1.8-3.1-4.6	2.4-4-5.2	2.7-4-5.5
	NC	—	—	—	17	22	25	29	35	39	43
305 Dia.	TP	6	9	13	18	23	29	36	52	71	93
	Airflow, L/S	149	184	222	260	297	333	370	467	519	592
	T	.6-.9-2.1	.9-1.2-2.7	.9-1.5-3.1	1.2-1.8-4	1.5-2.1-4	1.5-2.4-4.6	1.5-2.4-4.9	2.1-2.7-5.5	2.7-3.4-5.5	3.1-3.7-5.8
	NC	—	—	15	20	25	28	31	37	41	44
356 Dia.	TP	7	10	15	20	27	34	42	60	82	107
	Airflow, L/S	201	250	300	352	401	451	500	599	703	800
	T	.9-1.2-2.7	1.2-1.5-3.4	1.2-2.1-4	1.5-2.1-4.9	1.8-2.7-4.9	2.1-3.4-4.9	2.1-3.4-5.8	2.7-4-5.8	3.4-4.9-5.8	3.4-4.9-8.2
	NC	—	—	19	24	27	31	34	39	43	47
381 Dia.	TP	7	11	16	22	29	37	45	65	89	116
	Airflow, L/S	231	290	347	406	465	524	580	694	812	930
	T	1.5-2.1-3.1	1.8-2.4-3.4	2.1-2.7-4.3	2.4-3.1-5.2	2.4-4-5.5	3.1-4.6-5.8	3.4-4.9-6.7	3.7-5.5-8.2	4-6.1-9.8	4.6-6.7-10
	NC	—	15	21	25	28	32	35	40	44	48

D
CEILING DIFFUSERS

- L/S** - liters per second
- M/S** - meters per second velocity
- VP** - velocity pressure - Pa
- SP** - static pressure - Pa
- T** - throw in meters
- NC** - Noise Criteria (values) based on 10 dB room absorption, re 10⁻¹² watts.

Performance Notes:

1. Throws are given at .51, .38 and .25 m/s terminal velocities, under isothermal conditions.
2. If the diffuser is mounted on an exposed duct, multiply throw values by x 0.70.
3. All pressures are in pascals. To obtain static pressure, subtract the velocity pressure from the total pressure.
4. NC (Noise Criteria) values are based upon 10dB room absorption, re 10⁻¹² watts. Dash (-) in space indicates an NC of less than 15.

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

6. The addition of quadrant blanks reduces the effective area and for a given air volume, increases the discharge velocity. This will result in an increase in throw, pressure drop and sound level. To determine throw, select the diffuser as if it were supplying a larger volume of air. The table shows the percentage increase required to determine selection of diffuser size and throw. To correct pressure drop and NC, use correction factors as shown for 4-way blow values.

Neck Size Diameter in mms	Nominal Overall Face Size	Ak Factor
152	610 x 610	0.16
203	610 x 610	0.26
254	610 x 610	0.37
305	610 x 610	0.49
356	610 x 610	0.62
381	610 x 610	0.68

Quadrant Blanks (Blow)	% Increase in Air Volume for Throw Determination	% Increase in Static Pressure Drop	NC Sound Level Increase
1 (3-way)	35	125	8
2 (2-way)	100	450	19