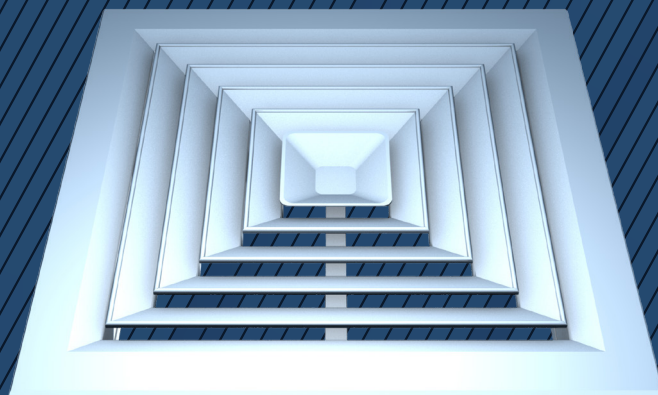


PRODUCT CATALOG



**GRILLES,
REGISTERS
& DIFFUSERS**

**RESIDENTIAL
GRILLES, REGISTERS AND DIFFUSERS**

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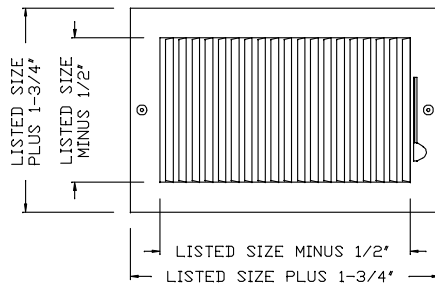
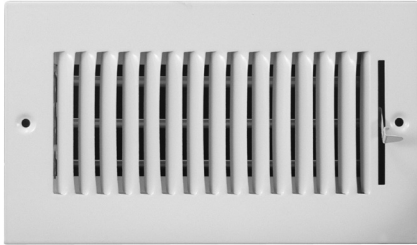
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MODEL 101M

One Way Stamped Sidewall Supply STEEL

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FEATURES

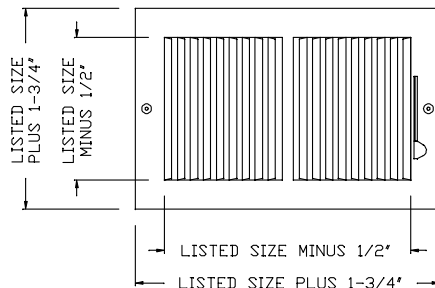
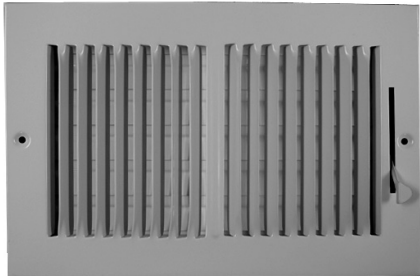
- Steel construction
- One way deflection
- 1/2" spacing lanced face
- Multi-shutter damper
- Riveted damper
- Steel handle operator
- Countersunk mounting holes
- 2" long zip screws
- White finish

Height	Width			
	8"	10"	12"	14"
4"	X			
6"		X	X	X

MODEL 102M

Two Way Stamped Sidewall Supply STEEL

Performance data – page 82



FEATURES

- Steel construction
- Two way deflection
- 1/2" spacing lanced face
- Multi-shutter damper
- Riveted damper
- Steel handle operator
- Countersunk mounting holes
- 2" long zip screws
- White finish

Height	Width					
	6"	8"	10"	12"	14"	16"
4"		X	X	X	X	
6"	X	X	X	X	X	X

FEATURES

- Steel construction
- Three way deflection
- 1/2" spacing lanced face
- Multi-shutter damper
- Riveted damper
- Steel handle operator
- Countersunk mounting holes
- 2" long zip screws
- White finish

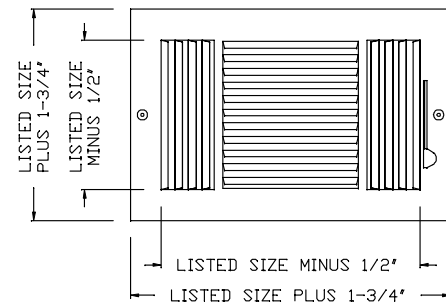
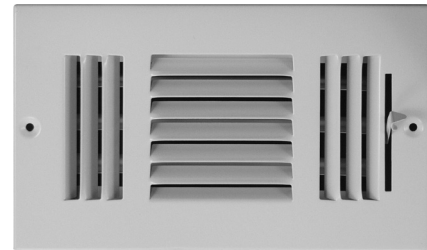
Height	Width					
	6"	8"	10"	12"	14"	16"
4"		X	X	X	X	
6"	X	X	X	X	X	X
8"		X	X	X	X	X
10"			X			
12"				X		
14"					X	

MODEL 103M

Three Way Stamped Sidewall Supply

STEEL

Performance data – page 82



FEATURES

- Steel construction
- Four way deflection
- 1/2" spacing lanced face
- Multi-shutter damper
- Riveted damper
- Steel handle operator
- Countersunk mounting holes
- 2" long zip screws
- White finish

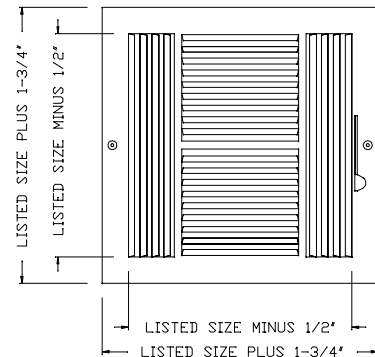
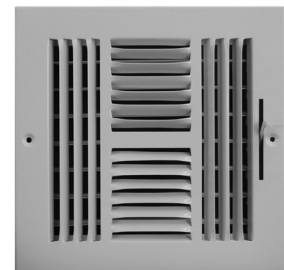
Height	Width				
	6"	8"	10"	12"	14"
6"	X				
8"		X			
10"			X		
12"				X	
14"					X

MODEL 104M

Four Way Stamped Sidewall Supply

STEEL

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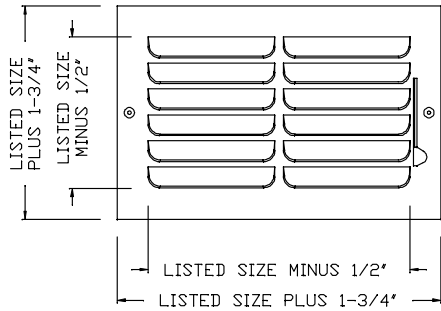


MODEL 201M

One Way Curved Blade Ceiling/Sidewall Supply

STEEL

Performance data – page 83



FEATURES

- Steel construction
- One way deflection
- Stamped curved blade face
- Multi-shutter damper
- Riveted damper
- Steel handle operator
- Countersunk mounting holes
- 2" long zip screws
- White finish

Height	Width				
	6"	8"	10"	12"	14"
4"		X	X		X
6"	X	X	X	X	X
8"			X	X	X
10"			X		
12"				X	

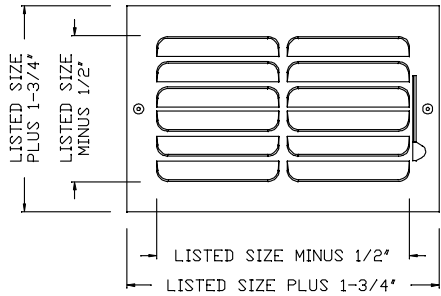
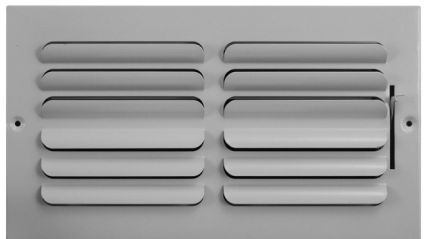
Other sizes available upon request

MODEL 202M

Two Way Curved Blade Ceiling/Sidewall Supply

STEEL

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FEATURES

- Steel construction
- Two way deflection
- Stamped curved blade face
- Multi-shutter damper
- Riveted damper
- Steel handle operator
- Countersunk mounting holes
- 2" long zip screws
- White finish

Height	Width		
	10"	12"	14"
6"	X	X	X
8"	X	X	
10"	X		
12"		X	

FEATURES

- Steel construction
- Three way deflection
- Stamped curved blade face
- Multi-shutter damper
- Riveted damper
- Steel handle operator
- Countersunk mounting holes
- 2" long zip screws
- White finish

Height	Width				
	8"	10"	12"	14"	16"
4"	X	X			
6"	X	X	X	X	X
8"	X	X	X	X	
10"		X			
12"			X		
14"				X	

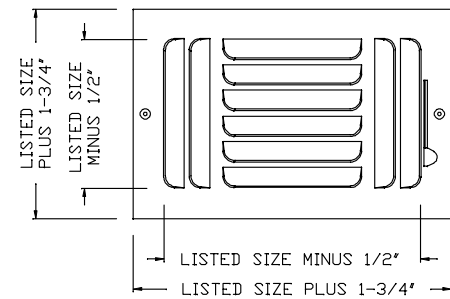
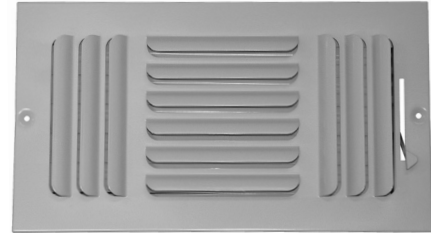
Other sizes available upon request

MODEL 203M

Three Way Curved Blade Ceiling/Sidewall Supply

STEEL

Performance data – page 83



FEATURES

- Steel construction
- Four way deflection
- Stamped curved blade face
- Multi-shutter damper
- Riveted damper
- Steel handle operator
- Countersunk mounting holes
- 2" long zip screws
- White finish

Height	Width				
	6"	8"	10"	12"	14"
6"	X				
8"		X			
10"			X		
12"				X	
14"					X

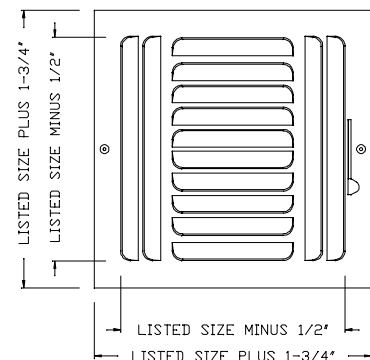
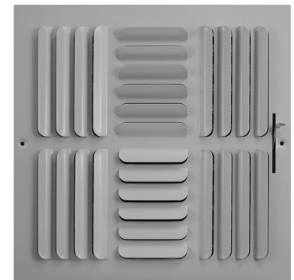
Other sizes available upon request

MODEL 204M

Four Way Curved Blade Ceiling/Sidewall Supply

STEEL

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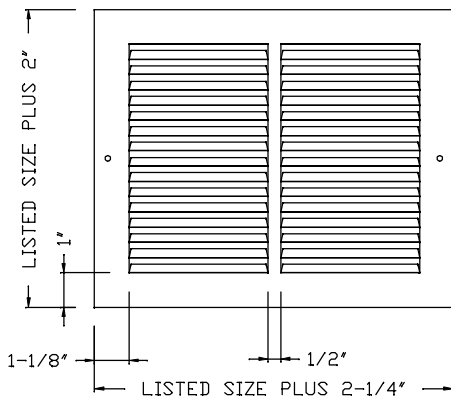
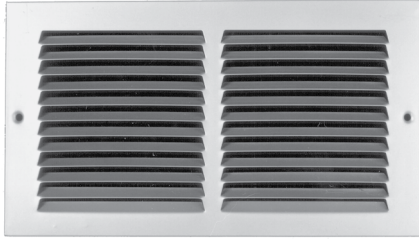


MODEL 1300

Baseboard Return Grille

STEEL

Performance data – page 82



FEATURES

- Steel construction
- 1/2" stamped lanced face
- Fins set at 30 degree angle
- 7/8" turnback
- 2" long zip screws
- White finish

Height	Width									
	8"	10"	12"	14"	16"	18"	20"	24"	30"	36"
4"			X						X	
6"	X	X	X	X	X	X	X	X	X	X
8"		X	X	X	X	X	X	X	X	X
10"			X		X		X	X	X	X
12"		X			X		X	X	X	X
14"									X	

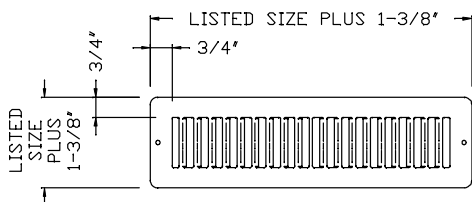
Other sizes available upon request

MODEL 1320

Toe Space Grille

STEEL

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FEATURES

- Steel construction
- Stamped lanced face
- Multi-angle fins
- Includes screws
- White or brown finish

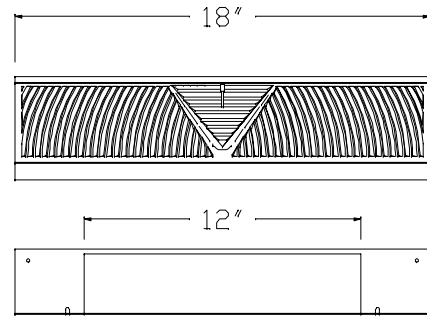
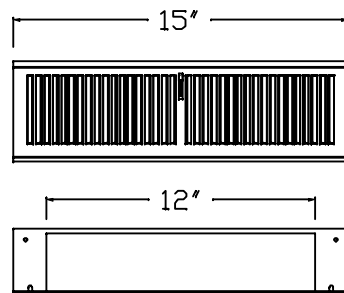
Height	Width		
	10"	12"	14"
2"	X	X	X

FEATURES

- Steel construction
- Fan shape air pattern
- Flap-style damper
- Removable face panel
- White or brown finish

ORDER AS MODEL 1340R RETURN (no damper)

Height	Width	
	15"	18"
4 1/2"	X	X



MODEL 1340

Baseboard Diffuser

STEEL

Performance data – page 83

FEATURES

- Steel construction
- 1/2" spaced louvers
- Fixed fins set at 50 degree angle
- White finish

Height	Width												
	6"	8"	10"	12"	14"	16"	18"	20"	22"	24"	25"	28"	30"
4"	X	X	X	X	X	X	X	X	X	X			X
6"	X	X	X	X	X	X	X	X	X	X			X
8"		X	X	X	X	X	X	X	X	X			X
10"			X	X	X	X	X	X	X	X			X
12"				X	X	X	X	X	X	X			X
14"		X	X		X	X	X	X	X	X	X	X	X
16"		X		X	X	X	X	X	X	X	X		X
18"				X	X		X	X	X	X	X		X
20"		X	X	X	X	X	X	X	X	X			X
24"		X	X	X	X	X	X	X	X	X			X
25"					X	X	X	X			X		
30"			X	X	X	X	X	X	X	X			X

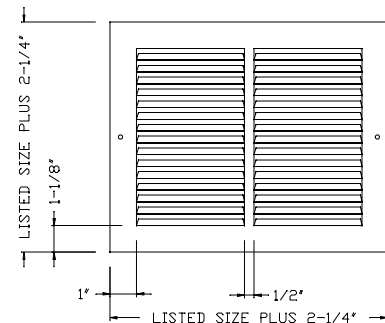
Other sizes available upon request

MODEL 1400

Return Air Grille

STEEL

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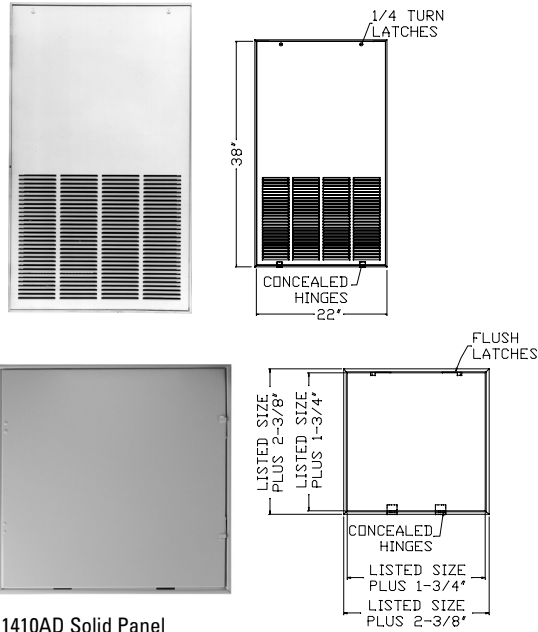




MODEL 1410AD

Access Door

STEEL



1410AD Solid Panel

FEATURES

- Steel construction
- Model 1410AD Size 20" x 36" – Face panel is 1/2 stamped face and 1/2 solid panel.
- Quick-release panel permits easy access to equipment
- Designed for installation into 20" x 36" wall opening
- Model 1410AD Square Sizes – full solid panel
- White finish

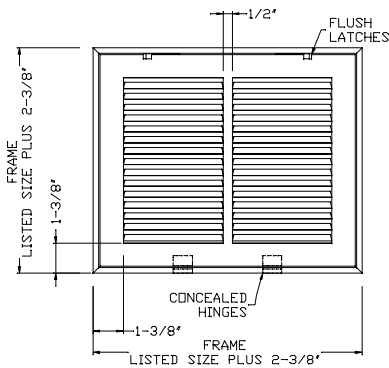
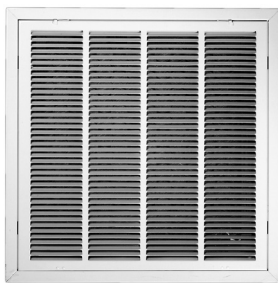
Height	Width			
	12"	14"	20"	24"
12"	X			
14"		X		
24"				X
36"			X	

MODEL 1410F

Return Air Filter Grille

STEEL

Performance data – page 84



FEATURES

- Steel construction
- Stamped 1/2" lanced face
- Fins fixed at 50 degrees
- Removable face
- Flush latches
- Uses standard 1" filter (not included)
- White finish

Height	Width										
	8"	10"	12"	14"	16"	18"	20"	24"	25"	28"	30"
6"		X	X	X				X			X
8"	X		X	X	X		X	X			
10"		X			X		X	X			X
12"			X		X	X	X	X	X		X
14"				X	X	X	X	X	X	X	X
16"			X		X	X	X	X			X
18"			X	X		X	X	X	X		X
20"		X	X	X	X	X	X	X	X		X
24"		X	X	X	X	X	X	X			X
25"				X	X	X	X		X		
28"				X							
30"		X	X	X	X	X	X	X	X		X

Other sizes available upon request

Hinge bottom is standard when width is greater than height

Hinge side is standard when height is greater than width

Can be ordered as hinge bottom when height is greater than width – order as 1410F BH

FEATURES

- Steel construction
- Multi-angle fin setting
- Heavy-gauge rolled fins
- Face only for return application
- Holes in face to provide for screws
- White or brown finish

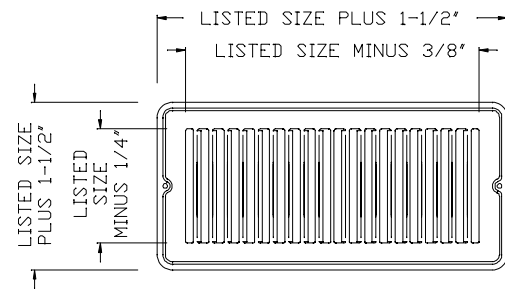
Height	Width		
	2"	4"	6"
8"		X	
10"	X	X	X
12"	X	X	X
14"	X	X	X

MODEL 1500

Floor Register – Face Only w/ Holes

STEEL

Performance data – page 85



FEATURES

- Steel construction
- Multi-angle fin setting
- Heavy-gauge rolled fins
- Foot-operated dial control for damper operation
- White or brown finish

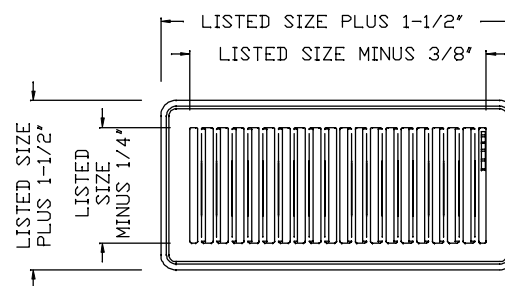
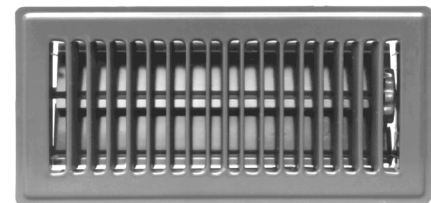
Height	Width		
	2"	4"	6"
8"		X	
10"	X	X	X
12"	X	X	X
14"	X	X	X

MODEL 1510D

Floor Register

STEEL

Performance data – page 85



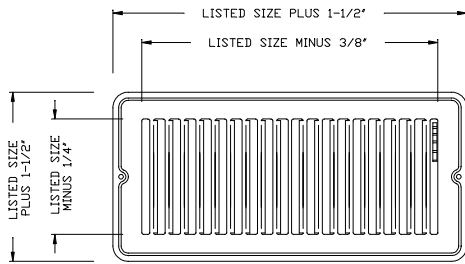
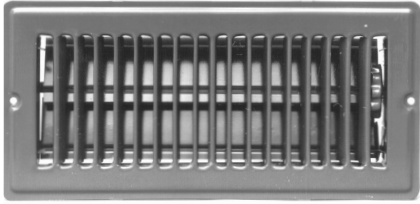


MODEL 1510DX/1510X

Floor Register w/ Holes

STEEL

Performance data – page 85



FEATURES

- Steel construction
- Model 1510DX – Floor register with holes
- Model 1510X – Face and damper box only
- Multi-angle fin setting
- Heavy-gauge rolled fins
- Foot-operated dial control for damper operation
- Mounting holes in face
- White or brown finish

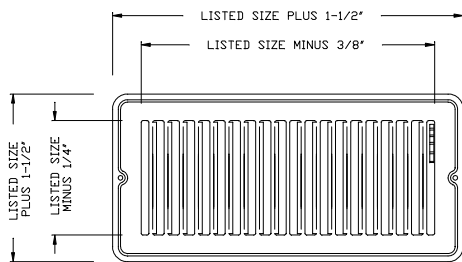
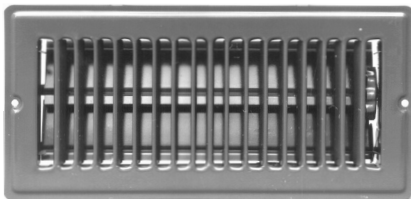
Height	Width		
	2"	4"	6"
8"		X	
10"	X	X	X
12"	X	X	X
14"	X	X	X

MODEL 1520M

Floor Register – Multi-Shutter Damper

STEEL

Performance data – page 85



FEATURES

- Steel construction
- Multi-angle fin setting
- Mounting holes in face
- White or brown finish

Height	Width
	4"
8"	X
10"	X

FEATURES

- Steel construction
- Heavy gauge bar type construction
- Face bars interlock with crossbracing
- Smooth surface
- White or brown finish

Height	Width													
	4"	6"	8"	10"	12"	14"	16"	18"	20"	22"	24"	26"	28"	30"
6"		X												
8"	X	X	X											
10"	X	X	X	X										
12"	X	X	X	X	X									
14"	X	X	X	X	X	X								
16"	X	X	X	X	X	X	X							
18"	X	X	X	X	X	X	X	X						
20"	X	X	X	X	X	X	X	X	X					
22"	X		X	X	X	X	X	X	X	X				
24"	X	X	X	X	X	X	X	X	X	X	X			
26"	X	X	X	X	X	X	X	X	X	X	X	X		
28"	X	X	X		X	X	X	X	X	X	X	X	X	
30"	X	X	X	X	X	X	X	X	X	X	X	X	X	X

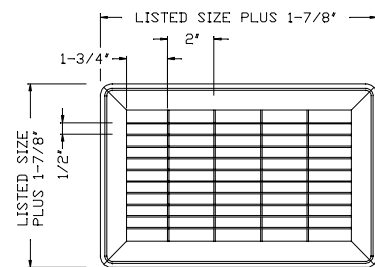
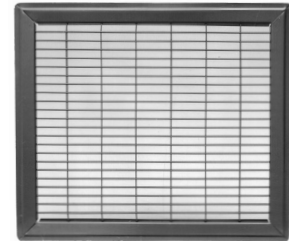
Other sizes available upon request

MODEL 1530

Bar Style Floor Grille

STEEL

Performance data – page 85



FEATURES

- Steel construction
- Heavy gauge bar type construction
- Face bars interlock with crossbracing
- Smooth surface
- Lever-operated dial control for damper operation
- White or brown finish

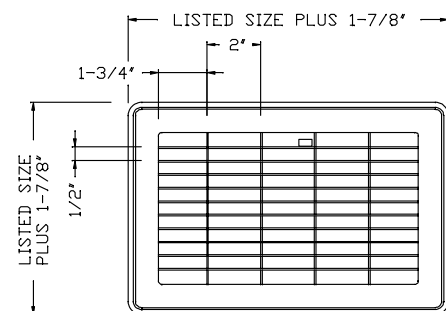
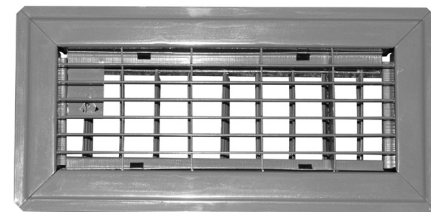
Height	Width						
	4"	6"	8"	10"	12"	14"	16"
6"	X	X					
8"	X	X	X				
10"	X	X	X	X			
12"	X	X	X	X	X		
14"	X	X	X	X	X	X	
16"		X	X			X	X
18"			X				
24"		X			X		

MODEL 1530M

Bar Style Floor Register

STEEL

Performance data – page 85



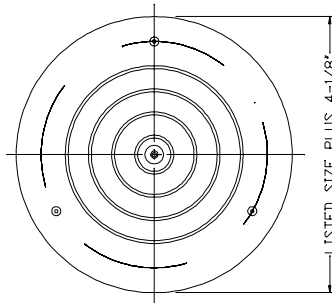


MODEL 900

Round Ceiling Diffuser

ALUMINUM

Performance data – page 89



FEATURES

- Model 900 – Aluminum construction
- 360 degree air pattern
- Concentric rings for even air distribution
- Mounting holes in outer ring
- Utilizes Model 900D damper (below)
- Hole in center core for damper control
- White finish

Diameter				
6"	8"	10"	12"	14"
X	X	X	X	X

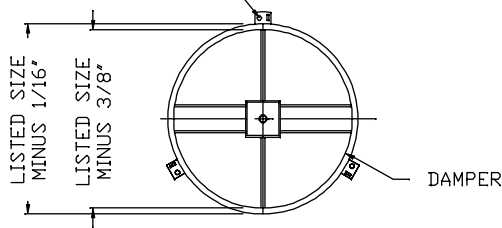
MODEL 900D

Round Damper w/ Ring

ALUMINUM



DAMPER MOUNTING TABS
(3) PLCS



FEATURES

- Model 900D – Aluminum construction
- For use with Model 900 Round Diffuser
- Butterfly style damper
- Supplied with mounting hardware
- Includes damper operator
- Model 900D – Mill finish

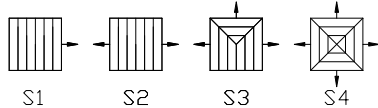
Diameter				
6"	8"	10"	12"	14"
X	X	X	X	X

FEATURES

5200-1 Flush Frame

5200-2 Bevel Frame

- All aluminum construction
- Face/frame only
- Removable core
- White finish
- Patterns: S1 – One Way S2 – Two Way
S3 – Three Way S4 – Four Way



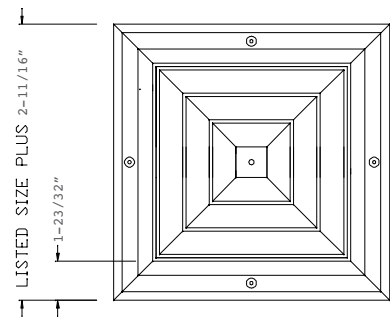
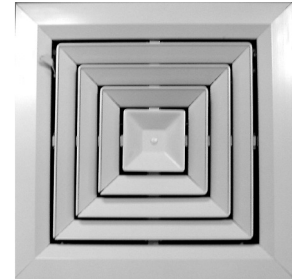
Height	Width						
	6"	8"	10"	12"	14"	16"	18"
6"	X						
8"		X					
10"			X				
12"				X			
14"					X		
16"						X	
18"							X

MODEL 5200

Louver Face Ceiling Diffuser – Face Only

ALUMINUM

Performance data – page 87

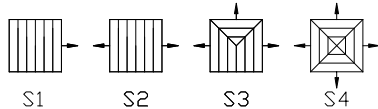


FEATURES

5200D-1 Flush Frame

5200D-2 Bevel Frame

- All aluminum construction
- Removable core
- Includes opposed blade damper
- Lever-operated damper control
- White finish
- Patterns: S1 – One Way S2 – Two Way
S3 – Three Way S4 – Four Way



- For no screw holes on face, order as 5200D NSH

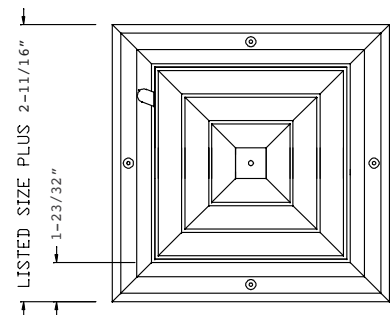
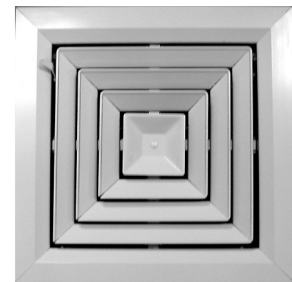
Height	Width						
	6"	8"	10"	12"	14"	16"	18"
6"	X						
8"		X					
10"			X				
12"				X			
14"					X		
16"						X	
18"							X

MODEL 5200-D

Louver Face Ceiling Diffuser – w/ Damper

ALUMINUM

Performance data – page 87



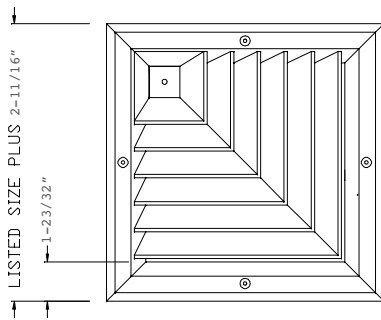
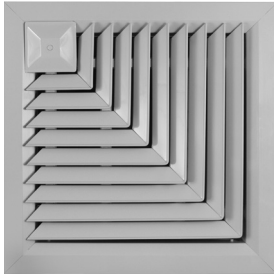


MODEL 5200-2C

**Louver Face Ceiling Diffuser
– Face Only Two Way Corner**

ALUMINUM

Performance data – page 87



FEATURES

5200-2C-1 Flush Frame

5200-2C-2 Bevel Frame

- All aluminum construction
- Face/frame only
- Removable core
- White finish
- Pattern: 2C – Two Way Corner



2C

- For no screw holes on face, order as 5200-2C NSH

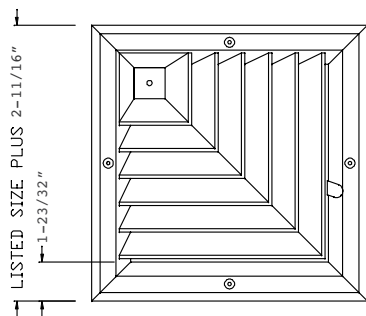
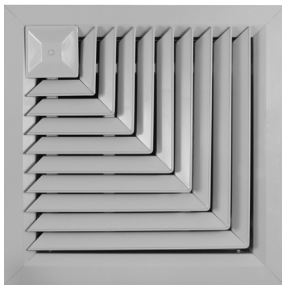
Height	Width						
	6"	8"	10"	12"	14"	16"	18"
6"	X						
8"		X					
10"			X				
12"				X			
14"					X		
16"						X	
18"							X

MODEL 5200D-2C

**Louver Face Ceiling Diffuser – w/Damper
Two Way Corner**

ALUMINUM

Performance data – page 87



FEATURES

5200D-2C-1 Flush Frame

5200D-2C-2 Bevel Frame

- All aluminum construction
- Removable core
- Includes opposed blade damper
- Lever-operated damper control
- White finish
- Pattern: 2C – Two Way Corner



2C

- For no screw holes on face, order as 5200D-2C NSH

Height	Width						
	6"	8"	10"	12"	14"	16"	18"
6"	X						
8"		X					
10"			X				
12"				X			
14"					X		
16"						X	
18"							X

FEATURES

- Steel construction
- Adjustable vertical blades
- Blades spaced at 2/3" on center
- Multi-shutter damper
- Steel handle operator
- White finish

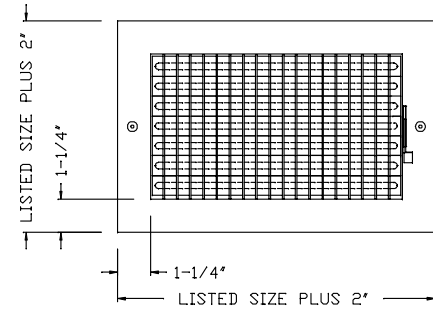
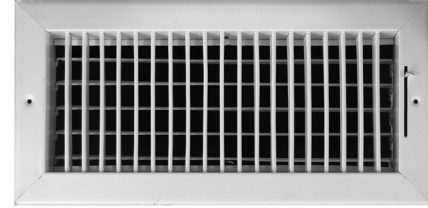
Height	Width								
	8"	10"	12"	14"	16"	18"	20"	24"	30"
4"	X	X	X	X	X				
6"	X	X	X	X	X		X	X	X
8"	X	X	X	X	X	X	X	X	
10"		X	X		X		X	X	
12"			X				X	X	
14"				X					

MODEL 4000SVM

Single Deflection Sidewall Supply

STEEL

Performance data – page 86



FEATURES

- Steel construction
- Fixed horizontal blades set at 45 degree angle
- Blades spaced at 2/3" on center
- White finish

Height	Width												
	6"	8"	10"	12"	14"	16"	18"	20"	22"	24"	26"	28"	30"
4"	X	X	X	X	X	X	X	X	X	X	X	X	X
5"	X	X	X	X	X	X	X	X	X	X	X	X	X
6"	X	X	X	X	X	X	X	X	X	X	X	X	X
8"		X	X	X	X	X	X	X	X	X	X	X	X
10"			X	X	X	X	X	X	X	X	X	X	X
12"				X	X	X	X	X	X	X	X	X	X
14"					X	X	X	X	X	X	X	X	X
16"						X	X	X	X	X	X	X	X
18"							X	X	X	X	X	X	X
20"								X	X	X	X	X	X
22"									X	X	X	X	X
24"										X	X	X	X
26"											X	X	X
28"												X	X
30"													X

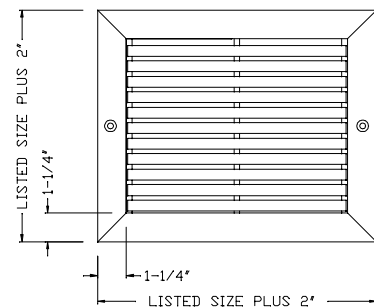
Other sizes available upon request

MODEL SRH

Fixed Bar Return Air Grille

STEEL

Performance data – page 91

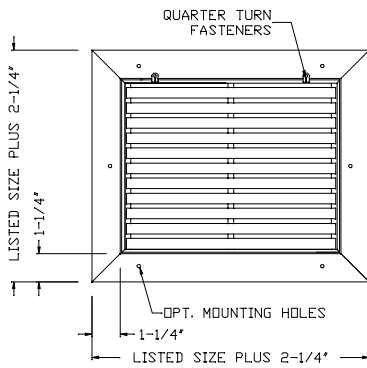


MODEL SRHF

Fixed Bar Return Air Filter Grille

STEEL

Performance data – page 91



FEATURES

- Steel construction
- Fixed horizontal blades set at 45 degree angle
- Blades spaced at 2/3" on center
- Accepts disposable 1" filter (not included)
- Hinged face with 1/4 turn latches
- White finish

Height	Width												
	6"	8"	10"	12"	14"	16"	18"	20"	22"	24"	26"	28"	30"
4"	X	X	X	X	X	X	X	X	X	X	X	X	X
5"	X	X	X	X	X	X	X	X	X	X	X	X	X
6"	X	X	X	X	X	X	X	X	X	X	X	X	X
8"		X	X	X	X	X	X	X	X	X	X	X	X
10"			X	X	X	X	X	X	X	X	X	X	X
12"				X	X	X	X	X	X	X	X	X	X
14"					X	X	X	X	X	X	X	X	X
16"						X	X	X	X	X	X	X	X
18"							X	X	X	X	X	X	X
20"								X	X	X	X	X	X
22"									X	X	X	X	X
24"										X	X	X	X
26"											X	X	X
28"												X	X
30"													X

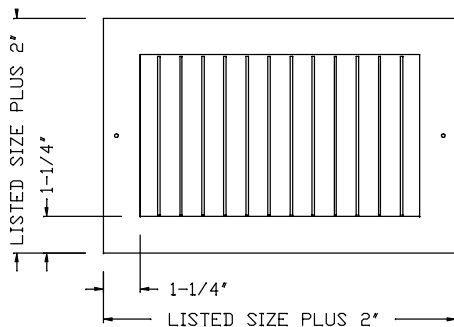
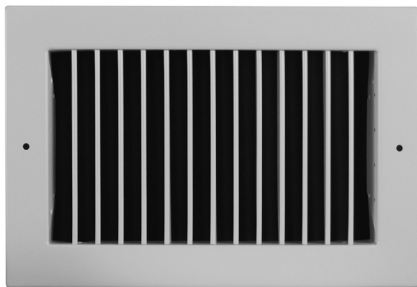
Other sizes available upon request

MODEL V

Single Deflection Sidewall Supply – Grille Only

ALUMINUM

Performance data – page 89



FEATURES

- Roll-formed aluminum construction
- Adjustable vertical blades
- Blades spaced at 2/3" on center
- White finish (optional satin silver finish)

Height	Width				
	6"	8"	10"	12"	14"
4"	X	X	X	X	X
6"	X	X	X	X	X
8"		X	X	X	X
10"			X		

Other sizes available upon request

FEATURES

- Roll-formed aluminum construction
- Adjustable vertical blades
- Blades spaced at 2/3" on center
- Includes opposed blade damper
- Damper controlled by screwdriver
- White finish (optional satin silver finish)

Height	Width				
	6"	8"	10"	12"	14"
4"	X	X	X	X	X
6"	X	X	X	X	X
8"		X	X	X	X
10"			X		
12"				X	

Other sizes available upon request

FEATURES

- Roll-formed aluminum construction
- Adjustable vertical blades
- Blades spaced at 2/3" on center
- Integral multi-shutter damper
- Damper controlled by lever
- White finish (optional satin silver finish)

Height	Width				
	6"	8"	10"	12"	14"
4"	X	X	X	X	X
6"	X	X	X	X	X
8"		X	X	X	X
10"			X		

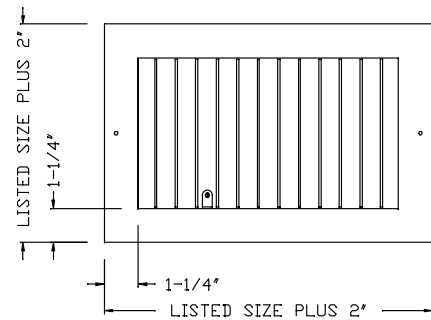
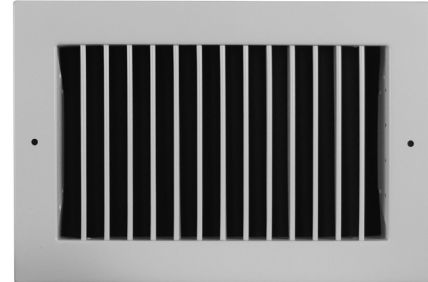
Other sizes available upon request

MODEL VD

Single Deflection Sidewall Supply w/OBD

ALUMINUM

Performance data – page 89

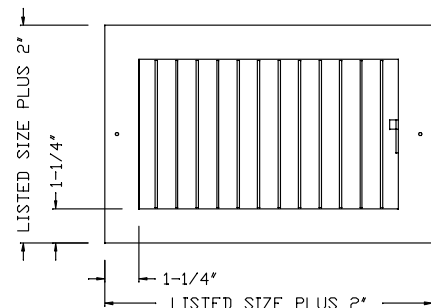
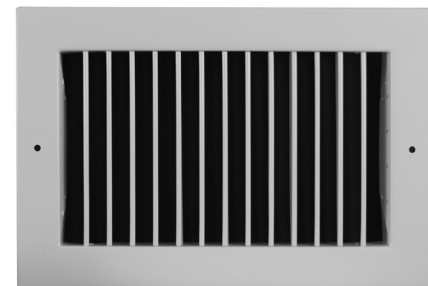


MODEL VM

Single Deflection Sidewall Supply w/MS Damper

ALUMINUM

Performance data – page 89

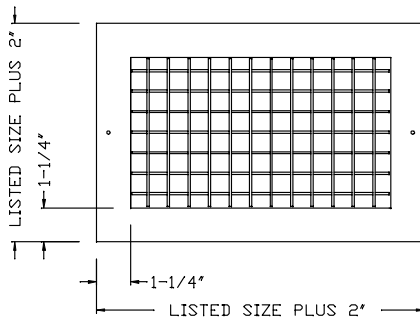
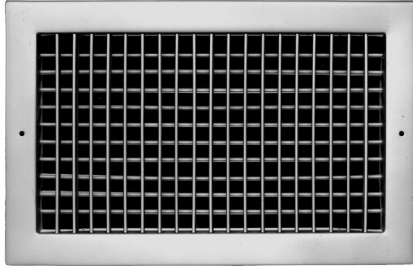


MODEL VH

Double Deflection Sidewall Supply – Grille Only

ALUMINUM

Performance data – page 89



FEATURES

- Roll-formed aluminum construction
- Adjustable vertical blades in front
- Adjustable horizontal blades in back
- Blades spaced at 2/3" on center
- White finish (optional satin silver finish)

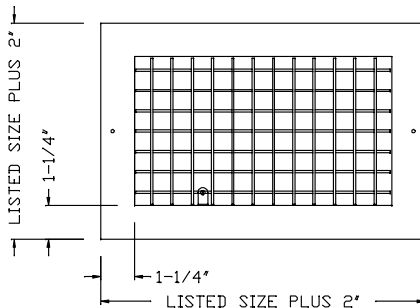
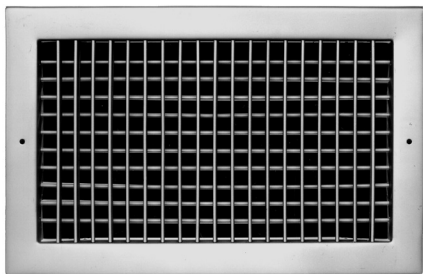
Height	Width				
	6"	8"	10"	12"	14"
4"	X	X	X	X	X
6"	X	X	X	X	X
8"		X	X	X	X
10"			X		

MODEL VHD

Double Deflection Sidewall Supply w/OBD

ALUMINUM

Performance data – page 89



FEATURES

- Roll-formed aluminum construction
- Adjustable vertical blades in front
- Adjustable horizontal blades in back
- Blades spaced at 2/3" on center
- Includes opposed blade damper
- Damper is operated by screwdriver
- White finish (optional satin silver finish)

Height	Width				
	6"	8"	10"	12"	14"
4"	X	X	X	X	X
6"	X	X	X	X	X
8"		X	X	X	X
10"			X		
12"				X	

Other sizes available upon request

FEATURES

- Roll-formed aluminum construction
- Adjustable curved blades at 15/16" centers
- One way air pattern
- Grille only
- White finish (optional satin silver finish)

Height	Width												
	6"	8"	10"	12"	14"	16"	18"	20"	22"	24"	26"	28"	30"
4"	X	X	X	X	X	X	X	X	X	X	X	X	X
5"	X	X	X	X	X	X	X	X	X	X	X	X	X
6"	X	X	X	X	X	X	X	X	X	X	X	X	X
8"		X	X	X	X	X	X	X	X	X	X	X	X
10"			X	X	X	X	X	X	X	X	X	X	X
12"				X	X	X	X	X	X	X	X	X	X
14"					X	X	X	X	X	X	X	X	X
16"						X	X	X	X	X	X	X	X
18"							X	X	X	X	X	X	X
20"								X	X	X	X	X	X
22"									X	X	X	X	X
24"										X	X	X	X
26"											X	X	X
28"												X	X
30"													X

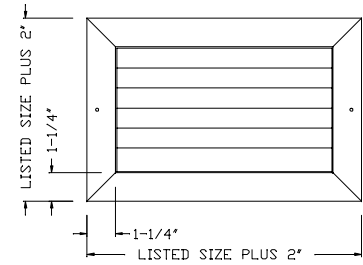
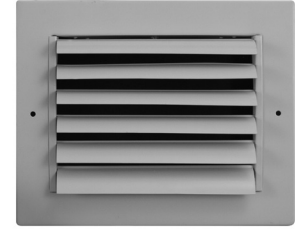
Other sizes available upon request

MODEL L

Curved Blade Ceiling Supply Face Only – 1-Way

ALUMINUM

Performance data – page 88



FEATURES

- Roll-formed aluminum construction
- Adjustable curved blades at 15/16" centers
- Two way air pattern
- Grille only
- White finish (optional satin silver finish)

Height	Width												
	6"	8"	10"	12"	14"	16"	18"	20"	22"	24"	26"	28"	30"
4"	X	X	X	X	X	X	X	X	X	X	X	X	X
5"	X	X	X	X	X	X	X	X	X	X	X	X	X
6"	X	X	X	X	X	X	X	X	X	X	X	X	X
8"		X	X	X	X	X	X	X	X	X	X	X	X
10"			X	X	X	X	X	X	X	X	X	X	X
12"				X	X	X	X	X	X	X	X	X	X
14"					X	X	X	X	X	X	X	X	X
16"						X	X	X	X	X	X	X	X
18"							X	X	X	X	X	X	X
20"								X	X	X	X	X	X
22"									X	X	X	X	X
24"										X	X	X	X
26"											X	X	X
28"												X	X
30"													X

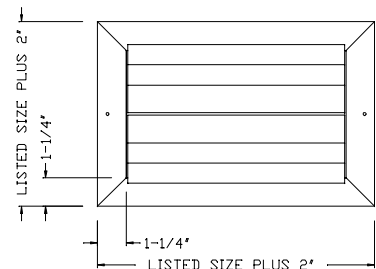
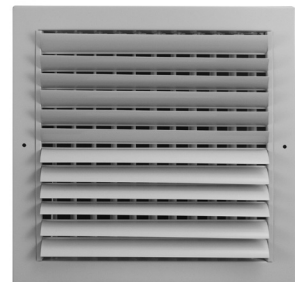
Other sizes available upon request

MODEL LT

Curved Blade Ceiling Supply Face Only – 2-Way

ALUMINUM

Performance data – page 88



MODEL LS3/LS4

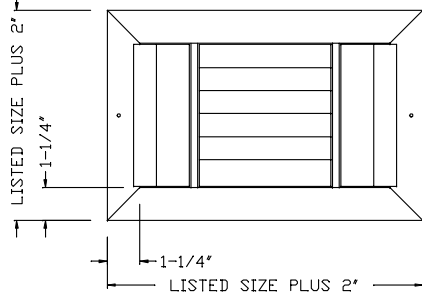
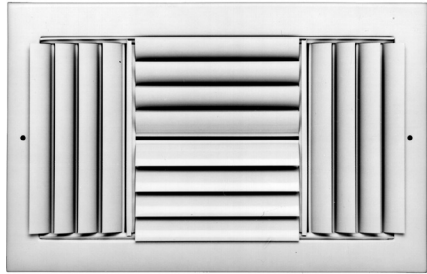
Curved Blade Ceiling Supply Face Only

LS3 – 3-Way

LS4 – 4-Way

ALUMINUM

Performance data – page 88



FEATURES

- Roll-formed aluminum construction
- Adjustable curved blades at 15/16" centers
- Three and four way air patterns
- Grille only
- White finish (optional satin silver finish)

Height	Width												
	6"	8"	10"	12"	14"	16"	18"	20"	22"	24"	26"	28"	30"
4"	X	X	X	X	X	X	X	X	X	X	X	X	X
5"	X	X	X	X	X	X	X	X	X	X	X	X	X
6"	X	X	X	X	X	X	X	X	X	X	X	X	X
8"		X	X	X	X	X	X	X	X	X	X	X	X
10"			X	X	X	X	X	X	X	X	X	X	X
12"				X	X	X	X	X	X	X	X	X	X
14"					X	X	X	X	X	X	X	X	X
16"						X	X	X	X	X	X	X	X
18"							X	X	X	X	X	X	X
20"								X	X	X	X	X	X
22"									X	X	X	X	X
24"										X	X	X	X
26"											X	X	X
28"												X	X

Other sizes available upon request

MODEL LTC/LTC3

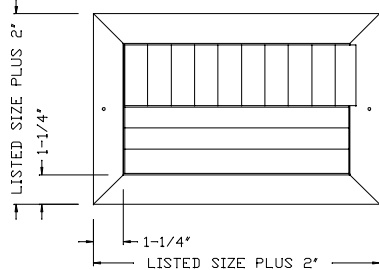
Curved Blade Ceiling Supply Face Only

LTC – 2-Way Corner

LTC3 – 3-Way Corner

ALUMINUM

Performance data – page 88



FEATURES

- Roll-formed aluminum construction
- Adjustable curved blades at 15/16" centers
- Two and three way corner air patterns
- Grille only
- White finish (optional satin silver finish)

Height	Width												
	6"	8"	10"	12"	14"	16"	18"	20"	22"	24"	26"	28"	30"
4"	X	X	X	X	X	X	X	X	X	X	X	X	X
5"	X	X	X	X	X	X	X	X	X	X	X	X	X
6"	X	X	X	X	X	X	X	X	X	X	X	X	X
8"		X	X	X	X	X	X	X	X	X	X	X	X
10"			X	X	X	X	X	X	X	X	X	X	X
12"				X	X	X	X	X	X	X	X	X	X
14"					X	X	X	X	X	X	X	X	X
16"						X	X	X	X	X	X	X	X
18"							X	X	X	X	X	X	X
20"								X	X	X	X	X	X
22"									X	X	X	X	X
24"										X	X	X	X
26"											X	X	X
28"												X	X
30"													X

FEATURES

- Roll-formed aluminum construction
- Adjustable curved blades at 15/16" centers
- One way air pattern
- Includes opposed blade damper
- White finish (optional satin silver finish)

Height	Width												
	6"	8"	10"	12"	14"	16"	18"	20"	22"	24"	26"	28"	30"
4"	X	X	X	X	X	X	X	X	X	X	X	X	X
5"	X	X	X	X	X	X	X	X	X	X	X	X	X
6"	X	X	X	X	X	X	X	X	X	X	X	X	X
8"		X	X	X	X	X	X	X	X	X	X	X	X
10"			X	X	X	X	X	X	X	X	X	X	X
12"				X	X	X	X	X	X	X	X	X	X
14"					X	X	X	X	X	X	X	X	X
16"						X	X	X	X	X	X	X	X
18"							X	X	X	X	X	X	X
20"								X	X	X	X	X	X
22"									X	X	X	X	X
24"										X	X	X	X
26"											X	X	X
28"												X	X
30"													X

Other sizes available upon request

FEATURES

- Roll-formed aluminum construction
- Adjustable curved blades at 15/16" centers
- Two way air pattern
- Includes opposed blade damper
- White finish (optional satin silver finish)

Height	Width												
	6"	8"	10"	12"	14"	16"	18"	20"	22"	24"	26"	28"	30"
4"	X	X	X	X	X	X	X	X	X	X	X	X	X
5"	X	X	X	X	X	X	X	X	X	X	X	X	X
6"	X	X	X	X	X	X	X	X	X	X	X	X	X
8"		X	X	X	X	X	X	X	X	X	X	X	X
10"			X	X	X	X	X	X	X	X	X	X	X
12"				X	X	X	X	X	X	X	X	X	X
14"					X	X	X	X	X	X	X	X	X
16"						X	X	X	X	X	X	X	X
18"							X	X	X	X	X	X	X
20"								X	X	X	X	X	X
22"									X	X	X	X	X
24"										X	X	X	X
26"											X	X	X
28"												X	X
30"													X

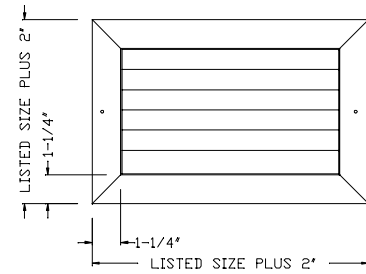
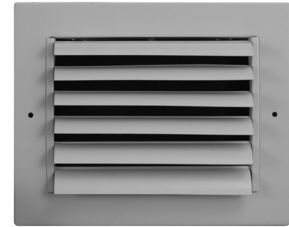
Other sizes available upon request

MODEL LD

Curved Blade Ceiling Supply w/OBD – 1-Way

ALUMINUM

Performance data – page 88

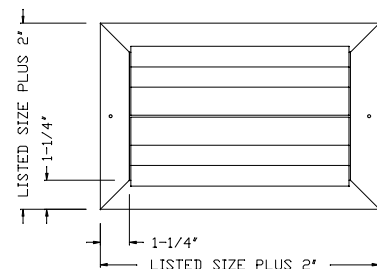
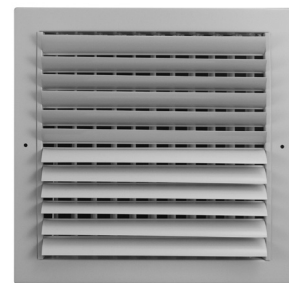


MODEL LTD

Curved Blade Ceiling Supply w/OBD – 2-Way

ALUMINUM

Performance data – page 88



MODEL LTCD/LTC3D

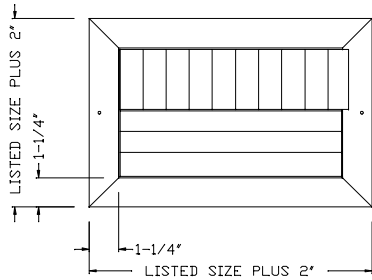
Curved Blade Ceiling Supply w/OBD

LTCD – 2-Way Corner

LTC3D – 3-Way Corner

ALUMINUM

Performance data – page 88



FEATURES

- Roll-formed aluminum construction
- Adjustable curved blades at 15/16" centers
- Two and three way corner air patterns
- Includes opposed blade damper
- White finish (optional satin silver finish)

Height	Width												
	6"	8"	10"	12"	14"	16"	18"	20"	22"	24"	26"	28"	30"
4"	X	X	X	X	X	X	X	X	X	X	X	X	X
5"	X	X	X	X	X	X	X	X	X	X	X	X	X
6"	X	X	X	X	X	X	X	X	X	X	X	X	X
8"		X	X	X	X	X	X	X	X	X	X	X	X
10"			X	X	X	X	X	X	X	X	X	X	X
12"				X	X	X	X	X	X	X	X	X	X
14"					X	X	X	X	X	X	X	X	X
16"						X	X	X	X	X	X	X	X
18"							X	X	X	X	X	X	X
20"								X	X	X	X	X	X
22"									X	X	X	X	X
24"										X	X	X	X
26"											X	X	X
28"												X	X
30"													X

Other sizes available upon request

MODEL LS3D/LS4D

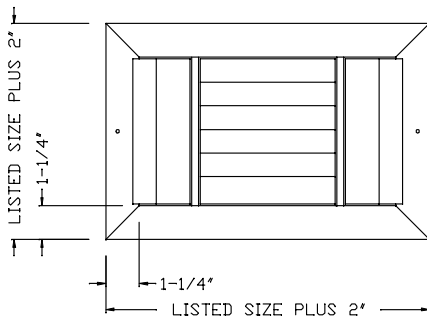
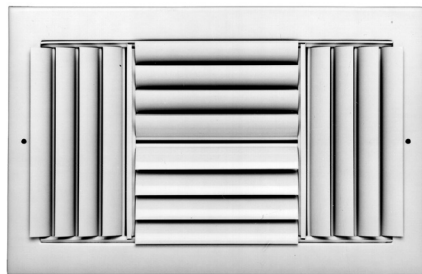
Curved Blade Ceiling Supply w/OBD

LS3D – 3-Way

LS4D – 4-Way

ALUMINUM

Performance data – page 88



FEATURES

- Roll-formed aluminum construction
- Adjustable curved blades at 15/16" centers
- Three and Four way air patterns
- Includes opposed blade damper
- White finish (optional satin silver finish)

Height	Width												
	6"	8"	10"	12"	14"	16"	18"	20"	22"	24"	26"	28"	30"
4"	X	X	X	X	X	X	X	X	X	X	X	X	X
5"	X	X	X	X	X	X	X	X	X	X	X	X	X
6"	X	X	X	X	X	X	X	X	X	X	X	X	X
8"		X	X	X	X	X	X	X	X	X	X	X	X
10"			X	X	X	X	X	X	X	X	X	X	X
12"				X	X	X	X	X	X	X	X	X	X
14"					X	X	X	X	X	X	X	X	X
16"						X	X	X	X	X	X	X	X
18"							X	X	X	X	X	X	X
20"								X	X	X	X	X	X
22"									X	X	X	X	X
24"										X	X	X	X
26"											X	X	X
28"												X	X
30"													X

Other sizes available upon request

FEATURES

- Roll-formed aluminum construction
- Adjustable curved blades at 15/16" centers
- One way air pattern
- Includes multi-shutter damper
- White finish (optional satin silver finish)

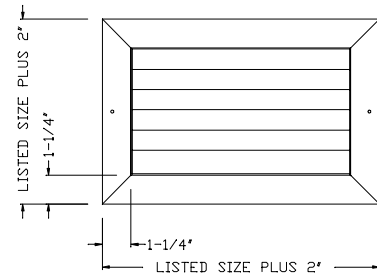
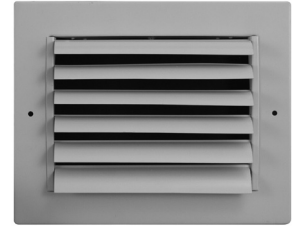
Height	Width									
	6"	8"	10"	12"	14"	16"	18"	20"	22"	24"
4"	X	X	X	X	X	X	X	X	X	X
5"	X	X	X	X	X	X	X	X	X	X
6"	X	X	X	X	X	X	X	X	X	X
8"		X	X	X	X	X	X	X	X	X
10"			X	X	X	X	X	X	X	X
12"				X	X	X	X	X	X	X
14"					X	X	X	X	X	X
16"						X	X	X	X	X
18"							X	X	X	X
20"								X	X	X
22"									X	X
24"										X

MODEL LM

Curved Blade Ceiling Supply w/MS Damper – 1-Way

ALUMINUM

Performance data – page 88



FEATURES

- Roll-formed aluminum construction
- Adjustable curved blades at 15/16" centers
- Two way air pattern
- Includes multi-shutter damper
- White finish (optional satin silver finish)

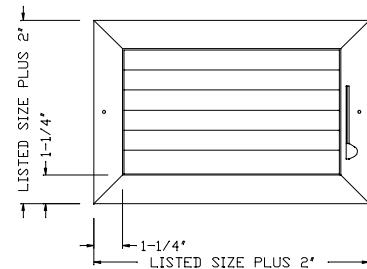
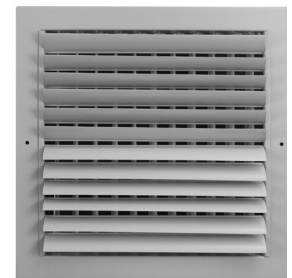
Height	Width									
	6"	8"	10"	12"	14"	16"	18"	20"	22"	24"
4"	X	X	X	X	X	X	X	X	X	X
5"	X	X	X	X	X	X	X	X	X	X
6"	X	X	X	X	X	X	X	X	X	X
8"		X	X	X	X	X	X	X	X	X
10"			X	X	X	X	X	X	X	X
12"				X	X	X	X	X	X	X
14"					X	X	X	X	X	X
16"						X	X	X	X	X
18"							X	X	X	X
20"								X	X	X
22"									X	X
24"										X

MODEL LTM

Curved Blade Ceiling Supply w/MS Damper – 2-Way

ALUMINUM

Performance data – page 88

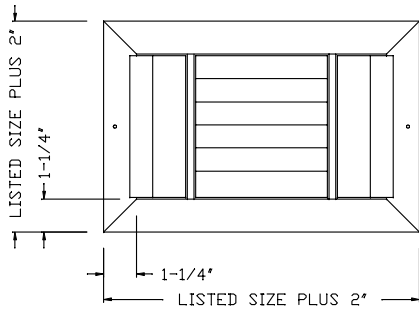
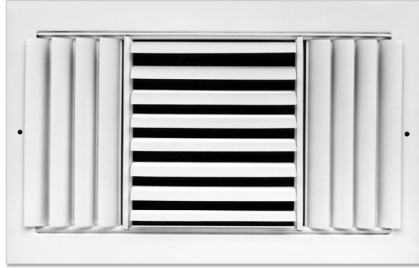


MODEL LS3M

Curved Blade Ceiling Supply w/MS Damper – 3-Way

ALUMINUM

Performance data – page 88



FEATURES

- Roll-formed aluminum construction
- Adjustable curved blades at 15/16" centers
- Three way air pattern
- Includes multi-shutter damper
- White finish (optional satin silver finish)

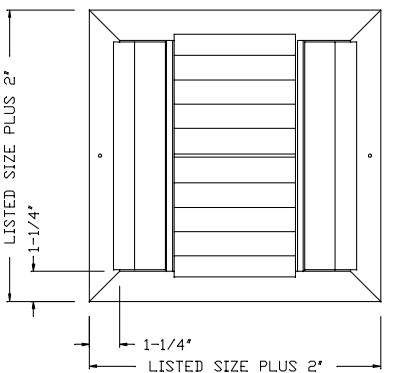
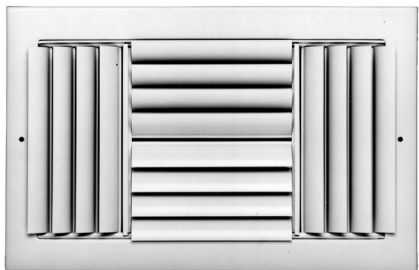
Height	Width									
	6"	8"	10"	12"	14"	16"	18"	20"	22"	24"
4"	X	X	X	X	X	X	X	X	X	X
5"	X	X	X	X	X	X	X	X	X	X
6"	X	X	X	X	X	X	X	X	X	X
8"		X	X	X	X	X	X	X	X	X
10"			X	X	X	X	X	X	X	X
12"				X	X	X	X	X	X	X
14"					X	X	X	X	X	X
16"						X	X	X	X	X
18"							X	X	X	X
20"								X	X	X
22"									X	X
24"										X

MODEL LS4M

Curved Blade Ceiling Supply w/MS Damper – 4-Way

ALUMINUM

Performance data – page 88



FEATURES

- Roll-formed aluminum construction
- Adjustable curved blades at 15/16" centers
- Four way air pattern
- Includes multi-shutter damper
- White finish (optional satin silver finish)

Height	Width				
	6"	8"	10"	12"	14"
6"	X				
8"		X			
10"			X		
12"				X	
14"					X

FEATURES

- Roll-formed aluminum construction
- Adjustable curved blades at 15/16" centers
- One way air pattern
- Includes multi-shutter damper
- Handle on outside of frame
- White finish (optional satin silver finish)

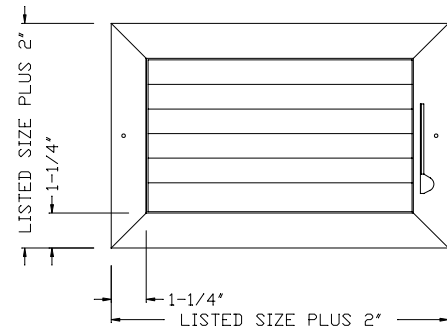
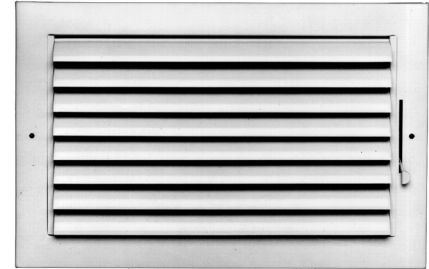
Height	Width				
	6"	8"	10"	12"	14"
4"	X	X	X	X	X
6"	X	X	X	X	X
8"		X	X	X	X
10"			X		
12"				X	

MODEL LMH

Curved Blade Ceiling Supply w/MS Damper 1-Way, Handle on Border

ALUMINUM

Performance data – page 88



FEATURES

- Roll-formed aluminum construction
- Adjustable curved blades at 15/16" centers
- Two way air pattern
- Includes multi-shutter damper
- Handle on outside of frame
- White finish (optional satin silver finish)

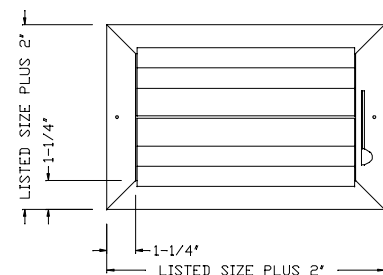
Height	Width				
	6"	8"	10"	12"	14"
4"	X	X	X	X	X
6"	X	X	X	X	X
8"		X	X	X	X
10"			X		
12"				X	

MODEL LTMH

Curved Blade Ceiling Supply w/MS Damper 2-Way, Handle on Border

ALUMINUM

Performance data – page 88

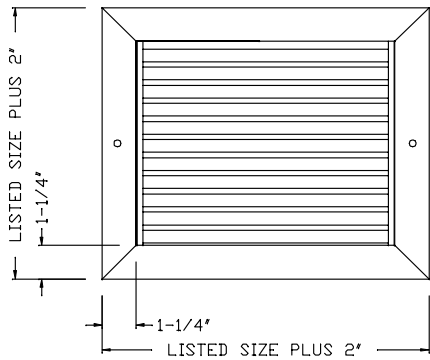
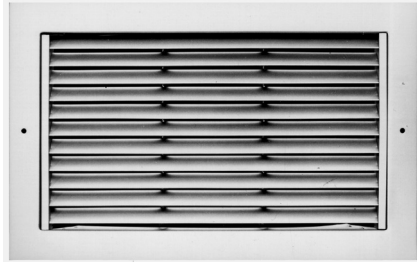


MODEL RH

Fixed Bar Return Air Grille

ALUMINUM

Performance data – page 91



FEATURES

- Roll-formed aluminum construction
- Horizontal fixed blades at 45 degrees
- Blades spaced at 2/3" centers
- Grille only
- White finish (optional satin silver finish)

Height	Width												
	6"	8"	10"	12"	14"	16"	18"	20"	22"	24"	26"	28"	30"
4"	X	X	X	X	X	X	X	X	X	X	X	X	X
5"	X	X	X	X	X	X	X	X	X	X	X	X	X
6"	X	X	X	X	X	X	X	X	X	X	X	X	X
8"		X	X	X	X	X	X	X	X	X	X	X	X
10"			X	X	X	X	X	X	X	X	X	X	X
12"				X	X	X	X	X	X	X	X	X	X
14"					X	X	X	X	X	X	X	X	X
16"						X	X	X	X	X	X	X	X
18"							X	X	X	X	X	X	X
20"								X	X	X	X	X	X
22"									X	X	X	X	X
24"										X	X	X	X
26"											X	X	X
28"												X	X
30"													X

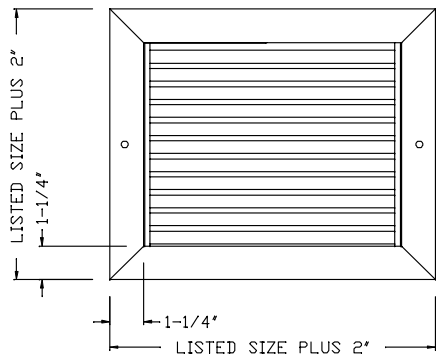
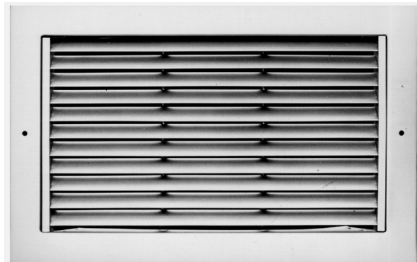
Other sizes available upon request

MODEL RHD

Fixed Bar Return Air Grille w/OBD

ALUMINUM

Performance data – page 91



FEATURES

- Roll-formed aluminum construction
- Horizontal fixed blades at 45 degrees
- Blades spaced at 2/3" centers
- Includes opposed blade damper
- White finish (optional satin silver finish)

Height	Width												
	6"	8"	10"	12"	14"	16"	18"	20"	22"	24"	26"	28"	30"
4"	X	X	X	X	X	X	X	X	X	X	X	X	X
5"	X	X	X	X	X	X	X	X	X	X	X	X	X
6"	X	X	X	X	X	X	X	X	X	X	X	X	X
8"		X	X	X	X	X	X	X	X	X	X	X	X
10"			X	X	X	X	X	X	X	X	X	X	X
12"				X	X	X	X	X	X	X	X	X	X
14"					X	X	X	X	X	X	X	X	X
16"						X	X	X	X	X	X	X	X
18"							X	X	X	X	X	X	X
20"								X	X	X	X	X	X
22"									X	X	X	X	X
24"										X	X	X	X
26"											X	X	X
28"												X	X
30"													X

Other sizes available upon request

FEATURES

- Roll-formed aluminum construction
- Horizontal fixed blades at 45 degrees
- Blades are set at 2/3" centers
- Accepts 1" disposable filter (not included)
- Hinged face with 1/4 turn latches for easy access
- White finish (optional satin silver finish)

Height	Width												
	6"	8"	10"	12"	14"	16"	18"	20"	22"	24"	26"	28"	30"
4"	X	X	X	X	X	X	X	X	X	X	X	X	X
5"	X	X	X	X	X	X	X	X	X	X	X	X	X
6"	X	X	X	X	X	X	X	X	X	X	X	X	X
8"		X	X	X	X	X	X	X	X	X	X	X	X
10"			X	X	X	X	X	X	X	X	X	X	X
12"				X	X	X	X	X	X	X	X	X	X
14"					X	X	X	X	X	X	X	X	X
16"						X	X	X	X	X	X	X	X
18"							X	X	X	X	X	X	X
20"								X	X	X	X	X	X
22"									X	X	X	X	X
24"										X	X	X	X
26"											X	X	X
28"												X	X
30"													X

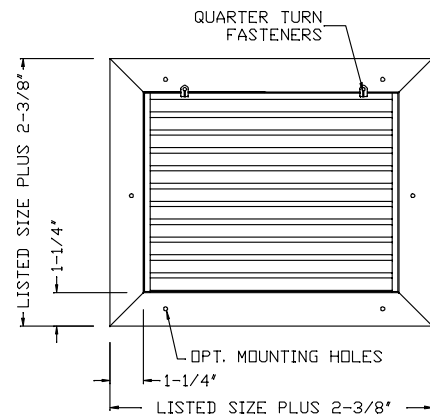
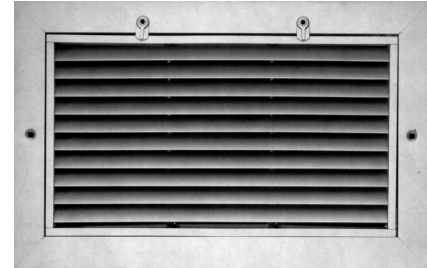
Other sizes available upon request

MODEL RHF

Fixed Bar Return Air Filter Grille

ALUMINUM

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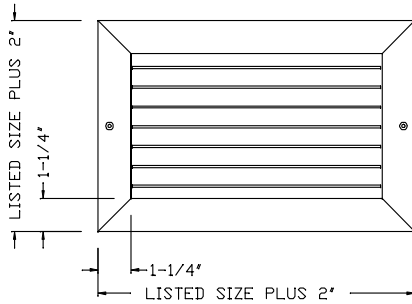
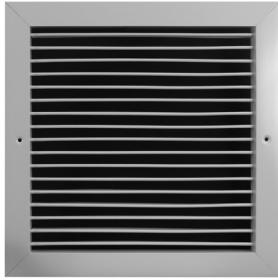


MODEL H4002

Single Deflection Sidewall Supply Grille Only – Horizontal Blades

EXTRUDED ALUMINUM FRAME

Performance data – page 86



FEATURES

- Extruded aluminum frame
- Single deflection
- Adjustable horizontal blades
- Blades spaced at 2/3" centers
- Grille only
- White finish (optional satin silver finish)

Height	Width												
	6"	8"	10"	12"	14"	16"	18"	20"	22"	24"	26"	28"	30"
4"	X	X	X	X	X	X	X	X	X	X	X	X	X
5"	X	X	X	X	X	X	X	X	X	X	X	X	X
6"	X	X	X	X	X	X	X	X	X	X	X	X	X
8"		X	X	X	X	X	X	X	X	X	X	X	X
10"			X	X	X	X	X	X	X	X	X	X	X
12"				X	X	X	X	X	X	X	X	X	X
14"					X	X	X	X	X	X	X	X	X
16"						X	X	X	X	X	X	X	X
18"							X	X	X	X	X	X	X
20"								X	X	X	X	X	X
22"									X	X	X	X	X
24"										X	X	X	X
26"											X	X	X
28"												X	X
30"													X

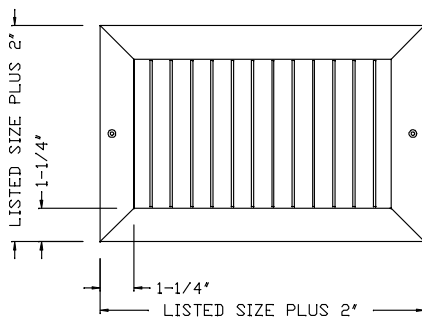
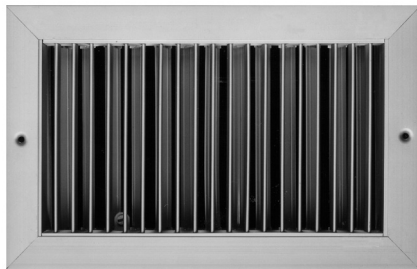
Other sizes available upon request

MODEL V4002

Single Deflection Sidewall Supply Grille Only – Vertical Blades

EXTRUDED ALUMINUM FRAME

Performance data – page 86



FEATURES

- Extruded aluminum frame
- Single deflection
- Adjustable vertical blades
- Blades spaced at 2/3" centers
- Grille only
- White finish (optional satin silver finish)

Height	Width												
	6"	8"	10"	12"	14"	16"	18"	20"	22"	24"	26"	28"	30"
4"	X	X	X	X	X	X	X	X	X	X	X	X	X
5"	X	X	X	X	X	X	X	X	X	X	X	X	X
6"	X	X	X	X	X	X	X	X	X	X	X	X	X
8"		X	X	X	X	X	X	X	X	X	X	X	X
10"			X	X	X	X	X	X	X	X	X	X	X
12"				X	X	X	X	X	X	X	X	X	X
14"					X	X	X	X	X	X	X	X	X
16"						X	X	X	X	X	X	X	X
18"							X	X	X	X	X	X	X
20"								X	X	X	X	X	X
22"									X	X	X	X	X
24"										X	X	X	X
26"											X	X	X
28"												X	X
30"													X

Other sizes available upon request

FEATURES

- Extruded aluminum frame
- Single deflection
- Adjustable horizontal blades
- Blades spaced at 2/3" centers
- Includes opposed blade damper
- White finish (optional satin silver finish)

Height	Width												
	6"	8"	10"	12"	14"	16"	18"	20"	22"	24"	26"	28"	30"
4"	X	X	X	X	X	X	X	X	X	X	X	X	X
5"	X	X	X	X	X	X	X	X	X	X	X	X	X
6"	X	X	X	X	X	X	X	X	X	X	X	X	X
8"		X	X	X	X	X	X	X	X	X	X	X	X
10"			X	X	X	X	X	X	X	X	X	X	X
12"				X	X	X	X	X	X	X	X	X	X
14"					X	X	X	X	X	X	X	X	X
16"						X	X	X	X	X	X	X	X
18"							X	X	X	X	X	X	X
20"								X	X	X	X	X	X
22"									X	X	X	X	X
24"										X	X	X	X
26"											X	X	X
28"												X	X
30"													X

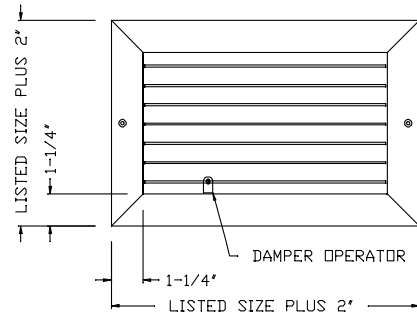
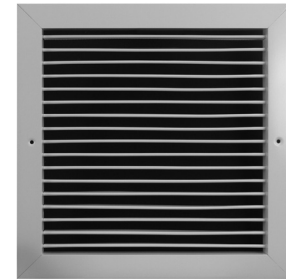
Other sizes available upon request

MODEL H4002D

Single Deflection Sidewall Supply w/OBD – Horizontal Blades

EXTRUDED ALUMINUM FRAME

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FEATURES

- Extruded aluminum frame
- Single deflection
- Adjustable vertical blades
- Blades spaced at 2/3" centers
- Includes opposed blade damper
- White finish (optional satin silver finish)

Height	Width												
	6"	8"	10"	12"	14"	16"	18"	20"	22"	24"	26"	28"	30"
4"	X	X	X	X	X	X	X	X	X	X	X	X	X
5"	X	X	X	X	X	X	X	X	X	X	X	X	X
6"	X	X	X	X	X	X	X	X	X	X	X	X	X
8"		X	X	X	X	X	X	X	X	X	X	X	X
10"			X	X	X	X	X	X	X	X	X	X	X
12"				X	X	X	X	X	X	X	X	X	X
14"					X	X	X	X	X	X	X	X	X
16"						X	X	X	X	X	X	X	X
18"							X	X	X	X	X	X	X
20"								X	X	X	X	X	X
22"									X	X	X	X	X
24"										X	X	X	X
26"											X	X	X
28"												X	X
30"													X

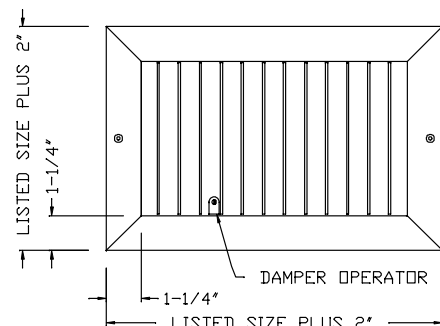
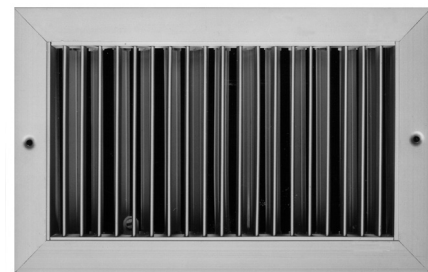
Other sizes available upon request

MODEL V4002D

Single Deflection Sidewall Supply w/OBD – Vertical Blades

EXTRUDED ALUMINUM FRAME

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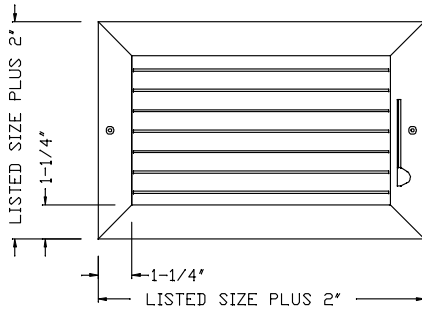
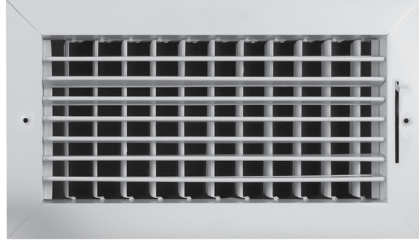


MODEL H4002M

Single Deflection Sidewall Supply w/MS Damper – Horizontal Blades

EXTRUDED ALUMINUM FRAME

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FEATURES

- Extruded aluminum frame
- Single deflection
- Adjustable horizontal blades
- Blades spaced at 2/3" centers
- Includes multi-shutter damper
- White finish (optional satin silver finish)

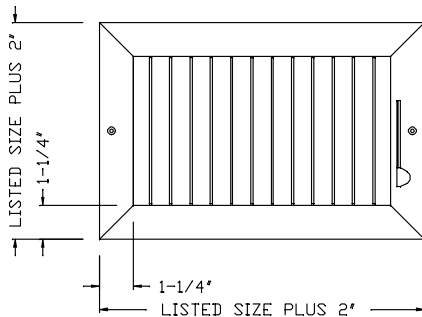
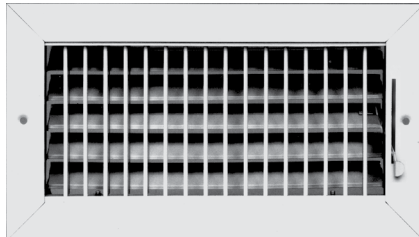
Height	Width									
	6"	8"	10"	12"	14"	16"	18"	20"	22"	24"
4"	X	X	X	X	X	X	X	X	X	X
5"	X	X	X	X	X	X	X	X	X	X
6"	X	X	X	X	X	X	X	X	X	X
8"		X	X	X	X	X	X	X	X	X
10"			X	X	X	X	X	X	X	X
12"				X	X	X	X	X	X	X
14"					X	X	X	X	X	X
16"						X	X	X	X	X
18"							X	X	X	X
20"								X	X	X
22"									X	X
24"										X

MODEL V4002M

Single Deflection Sidewall Supply w/MS Damper – Vertical Blades

EXTRUDED ALUMINUM FRAME

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FEATURES

- Extruded aluminum frame
- Single deflection
- Adjustable vertical blades
- Blades spaced at 2/3" centers
- Includes multi-shutter damper
- White finish (optional satin silver finish)

Height	Width									
	6"	8"	10"	12"	14"	16"	18"	20"	22"	24"
4"	X	X	X	X	X	X	X	X	X	X
5"	X	X	X	X	X	X	X	X	X	X
6"	X	X	X	X	X	X	X	X	X	X
8"		X	X	X	X	X	X	X	X	X
10"			X	X	X	X	X	X	X	X
12"				X	X	X	X	X	X	X
14"					X	X	X	X	X	X
16"						X	X	X	X	X
18"							X	X	X	X
20"								X	X	X
22"									X	X
24"										X

FEATURES

- Extruded aluminum frame
- Double deflection
- Adjustable horizontal front blades
- Adjustable vertical back blades
- Blades spaced at 2/3" centers
- Grille only
- White finish (optional satin silver finish)

Height	Width												
	6"	8"	10"	12"	14"	16"	18"	20"	22"	24"	26"	28"	30"
4"	X	X	X	X	X	X	X	X	X	X	X	X	X
5"	X	X	X	X	X	X	X	X	X	X	X	X	X
6"	X	X	X	X	X	X	X	X	X	X	X	X	X
8"		X	X	X	X	X	X	X	X	X	X	X	X
10"			X	X	X	X	X	X	X	X	X	X	X
12"				X	X	X	X	X	X	X	X	X	X
14"					X	X	X	X	X	X	X	X	X
16"						X	X	X	X	X	X	X	X
18"							X	X	X	X	X	X	X
20"								X	X	X	X	X	X
22"									X	X	X	X	X
24"										X	X	X	X
26"											X	X	X
28"												X	X
30"													X

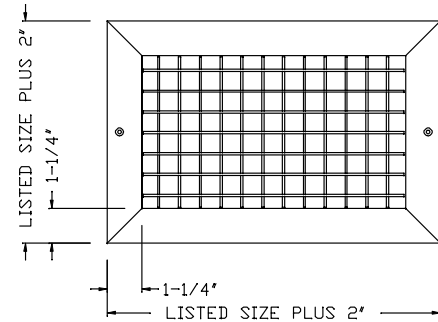
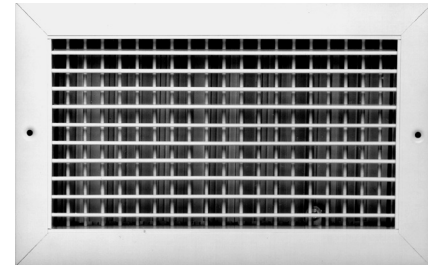
Other sizes available upon request

MODEL H4004

Double Deflection Sidewall Supply Grille Only – Horizontal Blades

EXTRUDED ALUMINUM FRAME

Performance data – page 86



FEATURES

- Extruded aluminum frame
- Double deflection
- Adjustable vertical front blades
- Adjustable horizontal back blades
- Blades spaced at 2/3" centers
- Grille only
- White finish (optional satin silver finish)

Height	Width												
	6"	8"	10"	12"	14"	16"	18"	20"	22"	24"	26"	28"	30"
4"	X	X	X	X	X	X	X	X	X	X	X	X	X
5"	X	X	X	X	X	X	X	X	X	X	X	X	X
6"	X	X	X	X	X	X	X	X	X	X	X	X	X
8"		X	X	X	X	X	X	X	X	X	X	X	X
10"			X	X	X	X	X	X	X	X	X	X	X
12"				X	X	X	X	X	X	X	X	X	X
14"					X	X	X	X	X	X	X	X	X
16"						X	X	X	X	X	X	X	X
18"							X	X	X	X	X	X	X
20"								X	X	X	X	X	X
22"									X	X	X	X	X
24"										X	X	X	X
26"											X	X	X
28"												X	X
30"													X

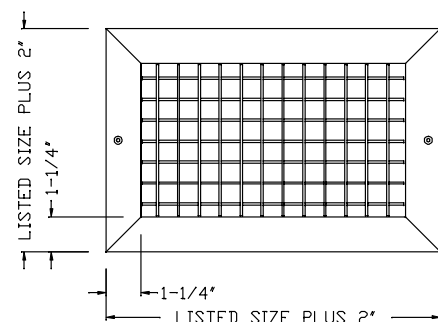
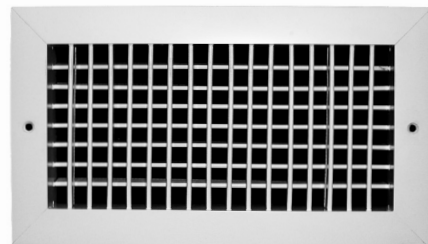
Other sizes available upon request

MODEL V4004

Double Deflection Sidewall Supply Grille Only – Vertical Blades

EXTRUDED ALUMINUM FRAME

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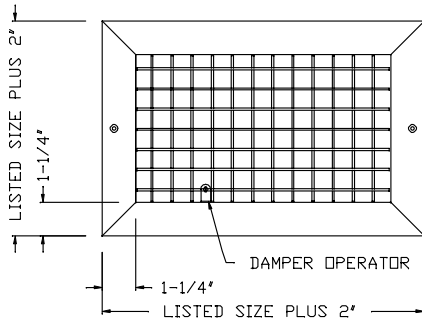
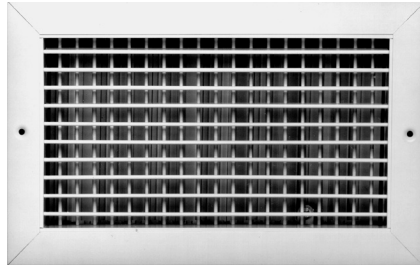


MODEL H4004D

Double Deflection Sidewall Supply w/OBD – Horizontal Blades

EXTRUDED ALUMINUM FRAME

Performance data – page 86



FEATURES

- Extruded aluminum frame
- Double deflection
- Adjustable horizontal front blades
- Adjustable vertical back blades
- Blades spaced at 2/3" centers
- Includes opposed blade damper
- White finish (optional satin silver finish)

Height	Width												
	6"	8"	10"	12"	14"	16"	18"	20"	22"	24"	26"	28"	30"
4"	X	X	X	X	X	X	X	X	X	X	X	X	X
5"	X	X	X	X	X	X	X	X	X	X	X	X	X
6"	X	X	X	X	X	X	X	X	X	X	X	X	X
8"		X	X	X	X	X	X	X	X	X	X	X	X
10"			X	X	X	X	X	X	X	X	X	X	X
12"				X	X	X	X	X	X	X	X	X	X
14"					X	X	X	X	X	X	X	X	X
16"						X	X	X	X	X	X	X	X
18"							X	X	X	X	X	X	X
20"								X	X	X	X	X	X
22"									X	X	X	X	X
24"										X	X	X	X
26"											X	X	X
28"												X	X
30"													X

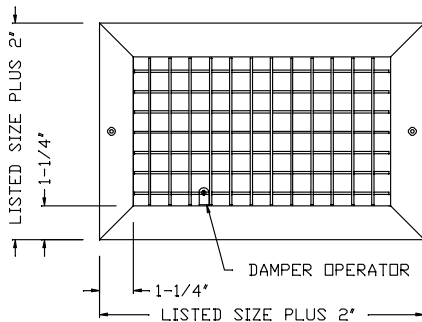
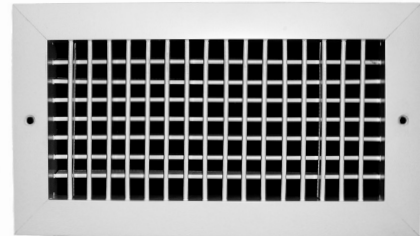
Other sizes available upon request

MODEL V4004D

Double Deflection Sidewall Supply w/OBD – Vertical Blades

EXTRUDED ALUMINUM FRAME

Performance data – page 86



FEATURES

- Extruded aluminum frame
- Double deflection
- Adjustable vertical front blades
- Adjustable horizontal back blades
- Blades spaced at 2/3" centers
- Includes opposed blade damper
- White finish (optional satin silver finish)

Height	Width												
	6"	8"	10"	12"	14"	16"	18"	20"	22"	24"	26"	28"	30"
4"	X	X	X	X	X	X	X	X	X	X	X	X	X
5"	X	X	X	X	X	X	X	X	X	X	X	X	X
6"	X	X	X	X	X	X	X	X	X	X	X	X	X
8"		X	X	X	X	X	X	X	X	X	X	X	X
10"			X	X	X	X	X	X	X	X	X	X	X
12"				X	X	X	X	X	X	X	X	X	X
14"					X	X	X	X	X	X	X	X	X
16"						X	X	X	X	X	X	X	X
18"							X	X	X	X	X	X	X
20"								X	X	X	X	X	X
22"									X	X	X	X	X
24"										X	X	X	X
26"											X	X	X
28"												X	X
30"													X

Other sizes available upon request

FEATURES

- Extruded aluminum construction
- Fixed horizontal blades set at 45 degrees
- Blades spaced at 2/3" centers
- Grille only
- White finish (optional satin silver finish)

Height	Width												
	6"	8"	10"	12"	14"	16"	18"	20"	22"	24"	26"	28"	30"
4"	X	X	X	X	X	X	X	X	X	X	X	X	X
5"	X	X	X	X	X	X	X	X	X	X	X	X	X
6"	X	X	X	X	X	X	X	X	X	X	X	X	X
8"		X	X	X	X	X	X	X	X	X	X	X	X
10"			X	X	X	X	X	X	X	X	X	X	X
12"				X	X	X	X	X	X	X	X	X	X
14"					X	X	X	X	X	X	X	X	X
16"						X	X	X	X	X	X	X	X
18"							X	X	X	X	X	X	X
20"								X	X	X	X	X	X
22"									X	X	X	X	X
24"										X	X	X	X
26"											X	X	X
28"												X	X
30"													X

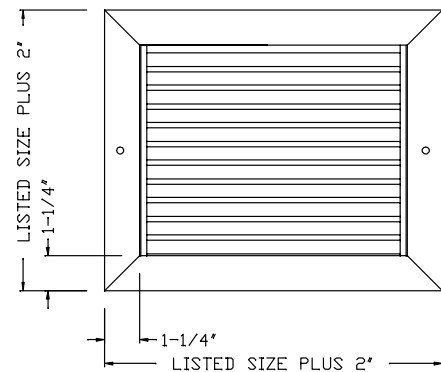
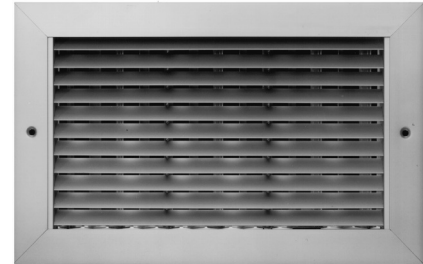
Other sizes available upon request

MODEL RHE

Fixed Bar Return Air Grille

EXTRUDED ALUMINUM

Performance data – page 91



FEATURES

- Extruded aluminum construction
- Fixed horizontal blades set at 45 degrees
- Blades spaced at 2/3" centers
- Includes opposed blade damper
- White finish (optional satin silver finish)

Height	Width												
	6"	8"	10"	12"	14"	16"	18"	20"	22"	24"	26"	28"	30"
4"	X	X	X	X	X	X	X	X	X	X	X	X	X
5"	X	X	X	X	X	X	X	X	X	X	X	X	X
6"	X	X	X	X	X	X	X	X	X	X	X	X	X
8"		X	X	X	X	X	X	X	X	X	X	X	X
10"			X	X	X	X	X	X	X	X	X	X	X
12"				X	X	X	X	X	X	X	X	X	X
14"					X	X	X	X	X	X	X	X	X
16"						X	X	X	X	X	X	X	X
18"							X	X	X	X	X	X	X
20"								X	X	X	X	X	X
22"									X	X	X	X	X
24"										X	X	X	X
26"											X	X	X
28"												X	X
30"													X

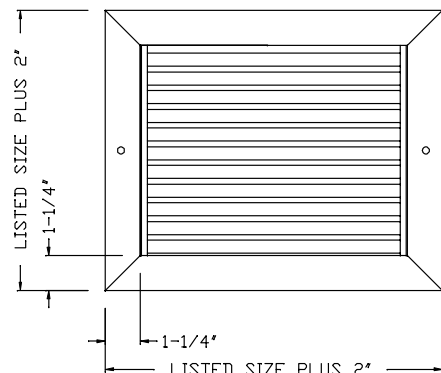
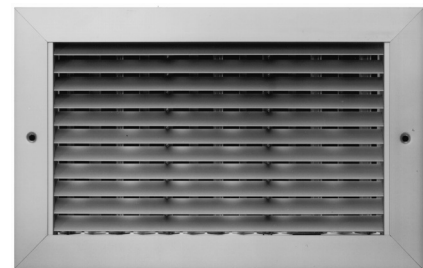
Other sizes available upon request

MODEL RHED

Fixed Bar Return Air Grille w/OBD

EXTRUDED ALUMINUM

Performance data – page 91

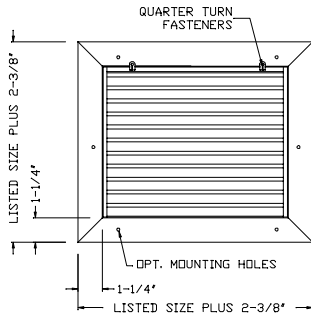


MODEL RHEF

Fixed Bar Return Air Filter Grille

EXTRUDED ALUMINUM

Performance data – page 91



FEATURES

- Extruded aluminum construction
- Fixed horizontal blades set at 45 degrees
- Blades spaced at 2/3" centers
- Accepts standard 1" disposable filter
- Hinged face with 1/4 turn latches
- Face opens for access to filter box
- White finish (optional satin silver finish)

Height	Width												
	6"	8"	10"	12"	14"	16"	18"	20"	22"	24"	26"	28"	30"
4"	X	X	X	X	X	X	X	X	X	X	X	X	X
5"	X	X	X	X	X	X	X	X	X	X	X	X	X
6"	X	X	X	X	X	X	X	X	X	X	X	X	X
8"		X	X	X	X	X	X	X	X	X	X	X	X
10"			X	X	X	X	X	X	X	X	X	X	X
12"				X	X	X	X	X	X	X	X	X	X
14"					X	X	X	X	X	X	X	X	X
16"						X	X	X	X	X	X	X	X
18"							X	X	X	X	X	X	X
20"								X	X	X	X	X	X
22"									X	X	X	X	X
24"										X	X	X	X
26"											X	X	X
28"												X	X
30"													X

Other sizes available upon request

FEATURES

- Extruded aluminum construction
- 1/2" x 1/2" x 1/2" cube core
- Offers 90% free area
- Grille only for surface mount applications
- White finish (optional satin silver finish)

Height	Width												
	6"	8"	10"	12"	14"	16"	18"	20"	22"	24"	26"	28"	30"
4"	X	X	X	X	X	X	X	X	X	X	X	X	X
5"	X	X	X	X	X	X	X	X	X	X	X	X	X
6"	X	X	X	X	X	X	X	X	X	X	X	X	X
8"		X	X	X	X	X	X	X	X	X	X	X	X
10"			X	X	X	X	X	X	X	X	X	X	X
12"				X	X	X	X	X	X	X	X	X	X
14"					X	X	X	X	X	X	X	X	X
16"						X	X	X	X	X	X	X	X
18"							X	X	X	X	X	X	X
20"								X	X	X	X	X	X
22"									X	X	X	X	X
24"										X	X	X	X
26"											X	X	X
28"												X	X
30"													X

Other sizes available upon request

FEATURES

- Extruded aluminum construction
- 1/2" x 1/2" x 1/2" cube core
- Offers 90% free area
- Includes opposed blade damper
- White finish (optional satin silver finish)

Height	Width												
	6"	8"	10"	12"	14"	16"	18"	20"	22"	24"	26"	28"	30"
4"	X	X	X	X	X	X	X	X	X	X	X	X	X
5"	X	X	X	X	X	X	X	X	X	X	X	X	X
6"	X	X	X	X	X	X	X	X	X	X	X	X	X
8"		X	X	X	X	X	X	X	X	X	X	X	X
10"			X	X	X	X	X	X	X	X	X	X	X
12"				X	X	X	X	X	X	X	X	X	X
14"					X	X	X	X	X	X	X	X	X
16"						X	X	X	X	X	X	X	X
18"							X	X	X	X	X	X	X
20"								X	X	X	X	X	X
22"									X	X	X	X	X
24"										X	X	X	X
26"											X	X	X
28"												X	X
30"													X

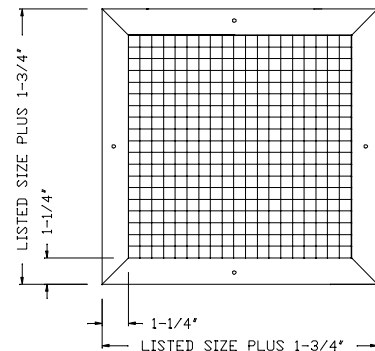
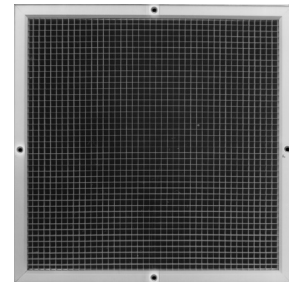
Other sizes available upon request

MODEL CC5

Cube Core Return Air Grille

EXTRUDED ALUMINUM

Performance data – page 91

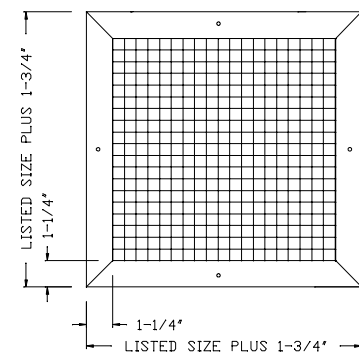
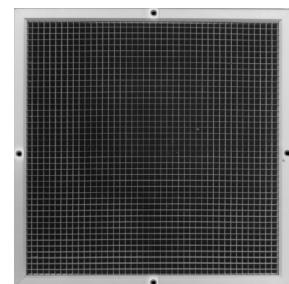


MODEL CC5D

Cube Core Return Air Grille w/OBD

EXTRUDED ALUMINUM

Performance data – page 91

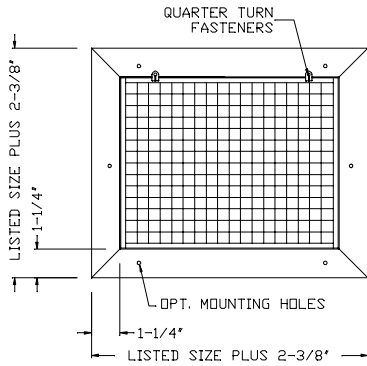
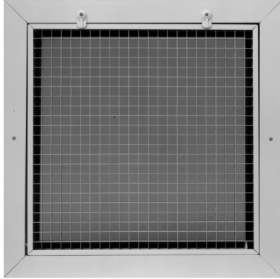


MODEL CC5F

Cube Core Return Air Filter Grille

EXTRUDED ALUMINUM

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FEATURES

- Extruded aluminum construction
- 1/2" x 1/2" x 1/2" cube core
- Offers 90% free area
- Accepts 1" disposable filter (not included)
- Hinged face with 1/4 turn latches
- Face swings open for easy access to filter box
- White finish (optional satin silver finish)

Height	Width												
	6"	8"	10"	12"	14"	16"	18"	20"	22"	24"	26"	28"	30"
4"	X	X	X	X	X	X	X	X	X	X	X	X	X
5"	X	X	X	X	X	X	X	X	X	X	X	X	X
6"	X	X	X	X	X	X	X	X	X	X	X	X	X
8"		X	X	X	X	X	X	X	X	X	X	X	X
10"			X	X	X	X	X	X	X	X	X	X	X
12"				X	X	X	X	X	X	X	X	X	X
14"					X	X	X	X	X	X	X	X	X
16"						X	X	X	X	X	X	X	X
18"							X	X	X	X	X	X	X
20"								X	X	X	X	X	X
22"									X	X	X	X	X
24"										X	X	X	X
26"											X	X	X
28"												X	X
30"													X

Other sizes available upon request

FEATURES

5500 DAF-CC5-1 Flush Frame

5500 DAF-CC5-2 Bevel Frame

- Extruded aluminum louver outer 4 way supply
- Cube core center snap-in/out return
- Supply/return plenums by others
- White finish

Square Neck Sizes	
Supply	Return
12"x12"	9"x9"
15"x15"	9"x9"
18"x18"	12"x12"
	15"x15"
21"x21"	15"x15"
24"x24"	18"x18"
27"x27"	18"x18"
30"x30"	21"x21"

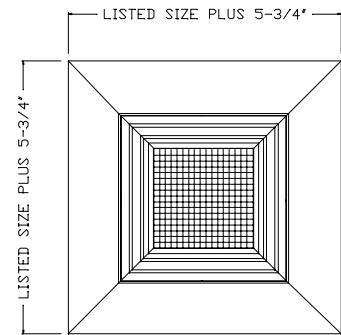
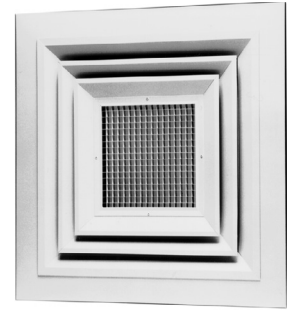
Other sizes available upon request

MODEL 5500 DAF-CC5

Concentric Supply/Return Diffuser, Louver Face/Cube Core, Surface Mount

EXTRUDED ALUMINUM

Performance data – page 92



FEATURES

9000-1 Flush Frame

9000-2 Bevel Frame

- Extruded aluminum construction
- Snap-in modular core
- Provides one, two, three or four way air pattern
- White finish

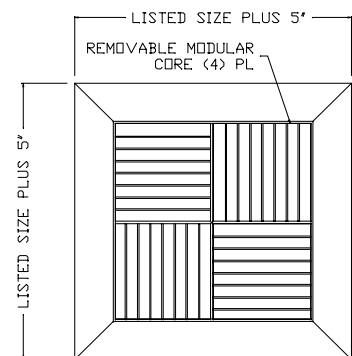
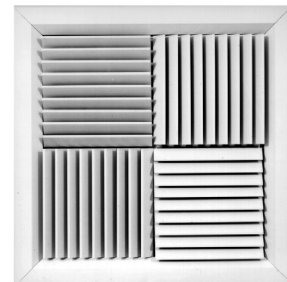
Height	Width									
	6"	8"	10"	12"	14"	16"	18"	20"	22"	24"
6"	X									
8"		X								
10"			X							
12"				X						
14"					X					
16"						X				
18"							X			
20"								X		
22"									X	
24"										X

MODEL 9000

Mod Core Ceiling Diffuser

EXTRUDED ALUMINUM

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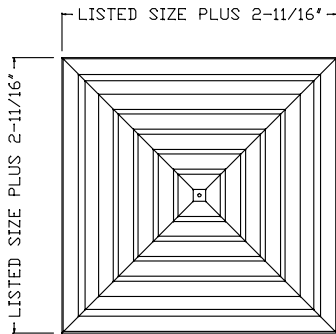
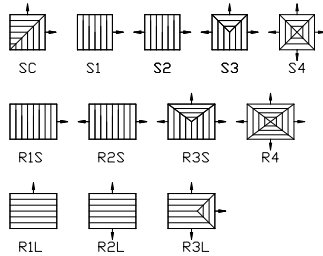
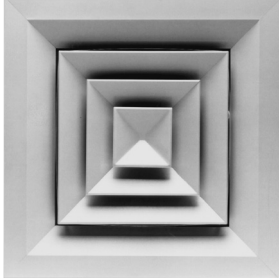


MODEL 4900

Square/Rectangular Louver Face Ceiling Diffuser

EXTRUDED ALUMINUM

Performance data – page 100



FEATURES

4900-1 Flush Frame

4900-2 Bevel Frame

- Extruded aluminum construction
- Square/rectangular sizes
- Louver face ceiling diffuser
- Surface mount
- Provides four way air pattern
- White finish

Height	Width								
	6"	9"	12"	15"	18"	21"	24"	27"	30"
6"	X	X	X	X	X	X	X	X	X
9"		X	X	X	X	X	X	X	X
12"			X	X	X	X	X	X	X
15"				X	X	X	X	X	X
18"					X	X	X	X	X
21"						X	X	X	X
24"							X	X	X
27"								X	X
30"									X

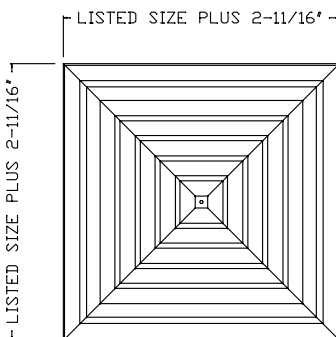
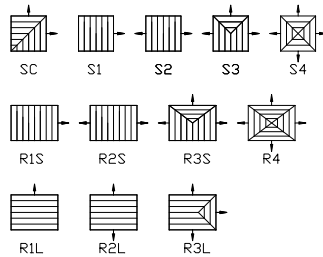
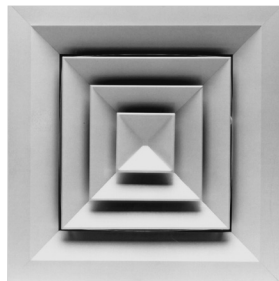
Other sizes available upon request

MODEL 4900D

Square/Rectangular Louver Face Ceiling Diffuser with OBD

EXTRUDED ALUMINUM

Performance data – page 100



FEATURES

- Extruded aluminum construction
- Square/rectangular sizes
- Louver face ceiling diffuser
- Surface mount
- Provides four way air pattern
- Includes opposed blade damper
- White finish

Height	Width								
	6"	9"	12"	15"	18"	21"	24"	27"	30"
6"	X	X	X	X	X	X	X	X	X
9"		X	X	X	X	X	X	X	X
12"			X	X	X	X	X	X	X
15"				X	X	X	X	X	X
18"					X	X	X	X	X
21"						X	X	X	X
24"							X	X	X
27"								X	X
30"									X

Other sizes available upon request

FEATURES

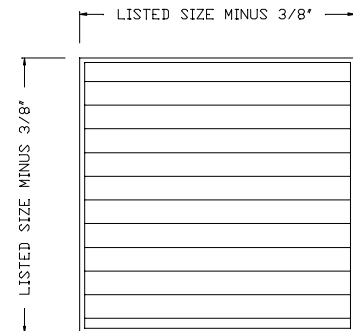
- Extruded aluminum construction
- U-channel frame
- Fixed inverted 'V' blades set at 70 degrees
- Sightproof
- Blades spaced at 2/3" centers
- White finish

Height	Width												
	6"	8"	10"	12"	14"	16"	18"	20"	22"	24"	26"	28"	30"
4"	X	X	X	X	X	X	X	X	X	X	X	X	X
5"	X	X	X	X	X	X	X	X	X	X	X	X	X
6"	X	X	X	X	X	X	X	X	X	X	X	X	X
8"		X	X	X	X	X	X	X	X	X	X	X	X
10"			X	X	X	X	X	X	X	X	X	X	X
12"				X	X	X	X	X	X	X	X	X	X
14"					X	X	X	X	X	X	X	X	X
16"						X	X	X	X	X	X	X	X
18"							X	X	X	X	X	X	X
20"								X	X	X	X	X	X
22"									X	X	X	X	X
24"										X	X	X	X
26"											X	X	X
28"												X	X
30"													X

MODEL DG

Transfer Door Grille EXTRUDED ALUMINUM

Performance data – page 90



FEATURES

- Extruded aluminum construction
- Fixed inverted 'V' blades set at 70 degrees
- Sightproof
- Blades spaced at 2/3" centers
- 2 sided telescoping frame
- Fits door 1 1/16" to 2 1/8" thick
- White finish

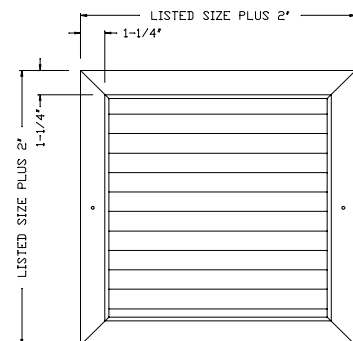
Height	Width												
	6"	8"	10"	12"	14"	16"	18"	20"	22"	24"	26"	28"	30"
4"	X	X	X	X	X	X	X	X	X	X	X	X	X
5"	X	X	X	X	X	X	X	X	X	X	X	X	X
6"	X	X	X	X	X	X	X	X	X	X	X	X	X
8"		X	X	X	X	X	X	X	X	X	X	X	X
10"			X	X	X	X	X	X	X	X	X	X	X
12"				X	X	X	X	X	X	X	X	X	X
14"					X	X	X	X	X	X	X	X	X
16"						X	X	X	X	X	X	X	X
18"							X	X	X	X	X	X	X
20"								X	X	X	X	X	X
22"									X	X	X	X	X
24"										X	X	X	X
26"											X	X	X
28"												X	X
30"													X

MODEL DGDF

Transfer Door Grille w/ Telescoping Frame (2 Sides)

EXTRUDED ALUMINUM

Performance data – page 90



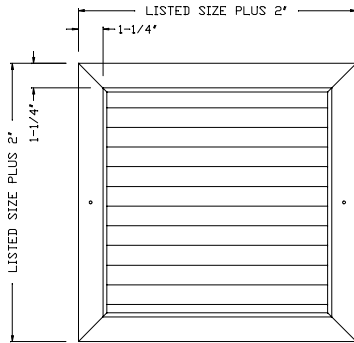
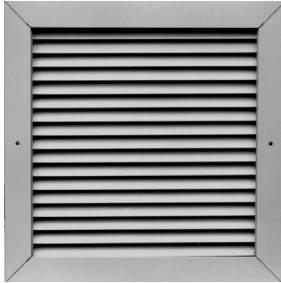
Other sizes available upon request

MODEL DGGSF

Transfer Door Grille w/Partition Frame (1 Side)

EXTRUDED ALUMINUM

Performance data – page 90



FEATURES

- Extruded aluminum construction
- Fixed inverted 'V' blades set at 70 degrees
- Sightproof
- Blades spaced at 2/3" centers
- 1 sided partition frame
- White finish

Height	Width												
	6"	8"	10"	12"	14"	16"	18"	20"	22"	24"	26"	28"	30"
4"	X	X	X	X	X	X	X	X	X	X	X	X	X
5"	X	X	X	X	X	X	X	X	X	X	X	X	X
6"	X	X	X	X	X	X	X	X	X	X	X	X	X
8"		X	X	X	X	X	X	X	X	X	X	X	X
10"			X	X	X	X	X	X	X	X	X	X	X
12"				X	X	X	X	X	X	X	X	X	X
14"					X	X	X	X	X	X	X	X	X
16"						X	X	X	X	X	X	X	X
18"							X	X	X	X	X	X	X
20"								X	X	X	X	X	X
22"									X	X	X	X	X
24"										X	X	X	X
26"											X	X	X
28"												X	X
30"													X

FEATURES

3100A – Aluminum construction

3100SA – Steel construction

- Low profile flush face
- Fully adjustable 2 cone diffuser
- Adjustable from horizontal to vertical discharge
- White finish

Round Neck Sizes								
6"	8"	10"	12"	14"	16"	18"	20"	24"
X	X	X	X	X	X	X	X	X

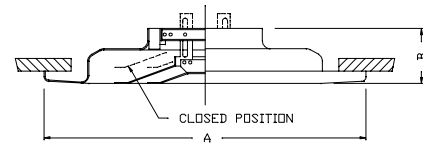
SIZE	A	B
6"	16-1/8"	2-3/4"
8"	16-1/8"	2-3/4"
10"	21-7/8"	3-1/8"
12"	21-7/8"	3-1/8"
14"	28-3/4"	3-7/8"
16"	28-3/4"	3-7/8"
18"	34-3/8"	5"
20"	34-3/8"	5"
24"	40-3/8"	5-1/2"

MODEL 3100A/3100SA

Commercial Round – Adjustable Core

ALUMINUM/STEEL

Performance data – page 87



FEATURES

3100 – Aluminum construction

3100S – Steel construction

- Low profile flush face
- Fixed 2 cone core
- White finish

Round Neck Sizes									
6"	8"	10"	12"	14"	16"	18"	20"	24"	30"
X	X	X	X	X	X	X	X	X	X

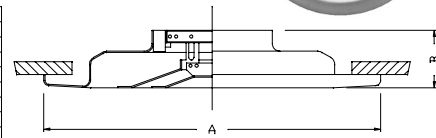
SIZE	A	B
6"	16-1/8"	2-3/4"
8"	16-1/8"	2-3/4"
10"	21-7/8"	3-1/8"
12"	21-7/8"	3-1/8"
14"	28-3/4"	3-7/8"
16"	28-3/4"	3-7/8"
18"	34-3/8"	5"
20"	34-3/8"	5"
24"	40-3/8"	5-1/2"

MODEL 3100/3100S

Commercial Round – Fixed Core

ALUMINUM/STEEL

Performance data – page 87



FEATURES

D3 – Aluminum construction

SD3 – Steel construction

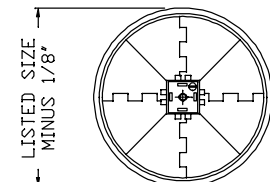
- Radial style opposed blade damper
- Mill finish

Damper Neck Sizes									
6"	8"	10"	12"	14"	16"	18"	20"	24"	30"
X	X	X	X	X	X	X	X	X	X

MODEL D3/SD3

Radial Opposed Blade Damper

ALUMINUM/STEEL

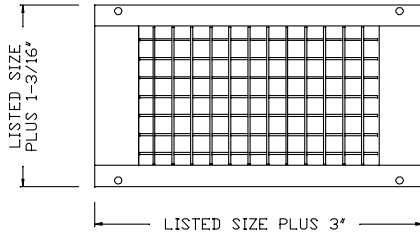
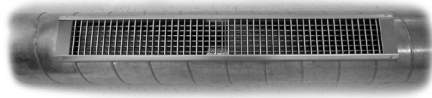


MODEL 4004P

Spiral Pipe Grille w/Scoop

ALUMINUM

Performance data – page 86



FEATURES

- Aluminum construction
- Exposed spiral duct applications
- Vertical front blades
- Can be installed in round duct diameters from 10" to 48"
- Integral gasket seals grille tightly to duct
- Includes built-in scoop extractor
- Scoop allows for accurate balancing and air control
- White finish, mill finish optional

Height	Width										
	10"	12"	14"	16"	18"	20"	22"	24"	26"	28"	30"
3"	X	X	X	X	X	X	X	X	X	X	X
4"	X	X	X	X	X	X	X	X	X	X	X
6"	X	X	X	X	X	X	X	X	X	X	X
8"			X	X	X	X	X	X	X	X	X
10"				X	X	X	X	X	X	X	X
12"					X	X	X	X	X	X	X

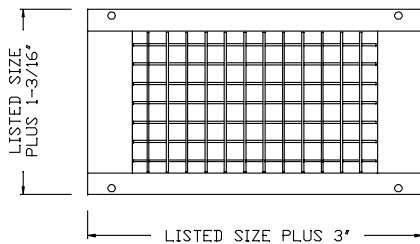
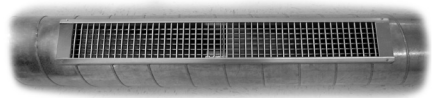
Other sizes available upon request

MODEL 4004SP

Spiral Pipe Grille w/Scoop

GALVANIZED STEEL

Performance data – page 86



FEATURES

- Galvanized steel construction
- Exposed spiral duct applications
- Vertical front blades
- Can be installed in round duct diameters from 10" to 48"
- Integral gasket seals grille tightly to duct
- Includes built-in scoop extractor
- Scoop allows for accurate balancing and air control
- Mill finish

Height	Width										
	10"	12"	14"	16"	18"	20"	22"	24"	26"	28"	30"
3"	X	X	X	X	X	X	X	X	X	X	X
4"	X	X	X	X	X	X	X	X	X	X	X
6"	X	X	X	X	X	X	X	X	X	X	X
8"		X	X	X	X	X	X	X	X	X	X
10"				X	X	X	X	X	X	X	X
12"					X	X	X	X	X	X	X

Other sizes available upon request

FEATURES

- Extruded aluminum construction
- Designed for floor applications
- 7/32" bars set at 1/2" centers
- Cross bracing
- Clear anodized finish

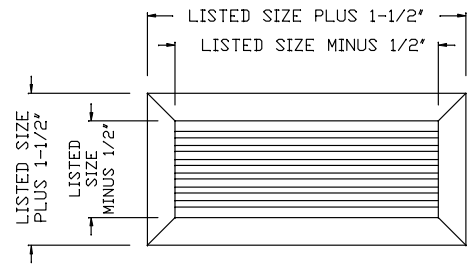
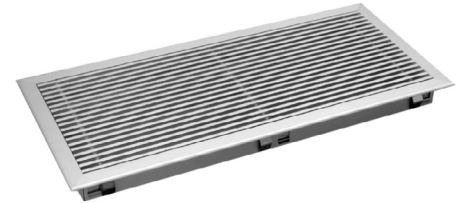
Height	Width					
	10"	12"	14"	24"	36"	48"
2"	X	X	X			
4"	X	X	X	X	X	X
6"	X	X	X	X	X	X

Other sizes available upon request

MODEL 2000F

Linear Bar Floor Grille EXTRUDED ALUMINUM

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FEATURES

- Extruded aluminum construction
- Designed for floor applications
- 7/32" bars set at 1/2" centers
- Includes opposed blade damper
- Cross bracing
- Clear anodized finish

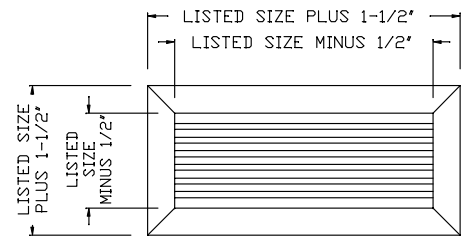
Height	Width					
	10"	12"	14"	24"	36"	48"
2"	X	X	X			
4"	X	X	X	X	X	X
6"	X	X	X	X	X	X

Other sizes available upon request

MODEL 2000FD

Linear Bar Floor Grille w/OBD EXTRUDED ALUMINUM

Performance data – page 85

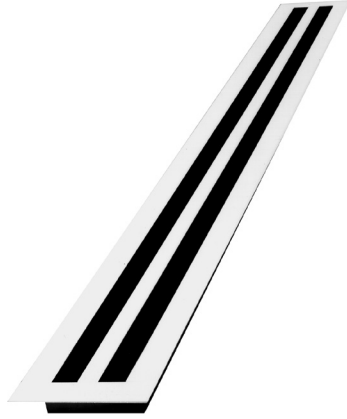


MODEL 6600

Linear Slot Diffuser

EXTRUDED ALUMINUM

Performance data – pages 94-96



FEATURES

6650 – 1/2" slot

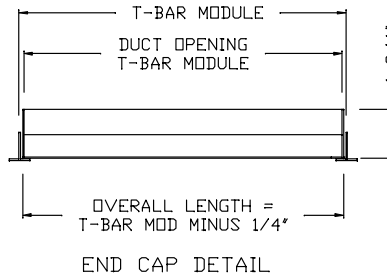
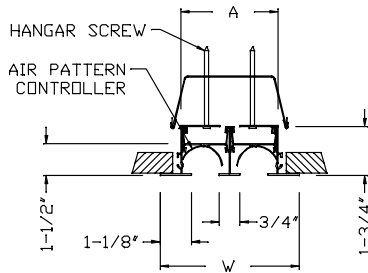
6675 – 3/4" slot

6610 – 1" slot

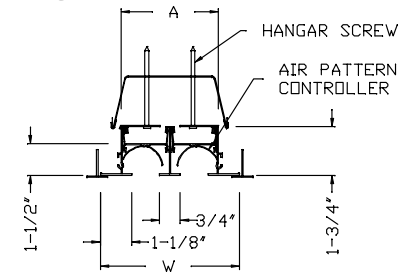
- Extruded aluminum construction
- Available in 1 to 8 slots
- Pattern controllers are adjustable from face
- Volume or throw direction able to be adjusted from vertical to horizontal
- Optional UP Boot Plenum available
- Optional UPI Insulated Boot Plenum available
- White face/ Black interior
- 3 Mounting Styles:
 - 11-1 - Face Screw Mount
 - 12-1 - Concealed Surface Mount
 - 12-6 - T-Bar Lay-in

Length	1,2,3,4 Slot
24"	X
36"	X
48"	X
60"	X

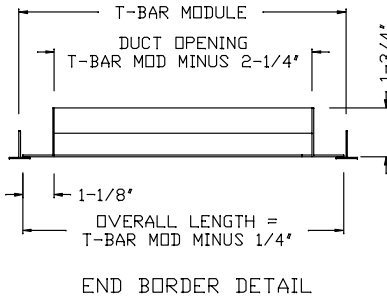
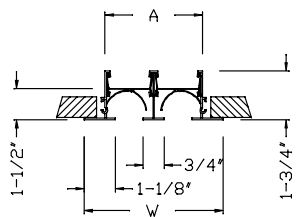
12-1



12-6



11-1



MODEL 6650 - 1/2" SLOT					
NUMBER OF AIR SLOTS					
	1	2	3	4	
A	1-1/4"	2-1/2"	3-3/4"	5"	
W	2-3/4"	4"	5-1/4"	6-1/2"	

MODEL 6675 - 3/4" SLOT					
NUMBER OF AIR SLOTS					
	1	2	3	4	
A	1-1/2"	3"	4-1/2"	6"	
W	3"	4-1/2"	6"	7-1/2"	

MODEL 6610 - 1" SLOT					
NUMBER OF AIR SLOTS					
	1	2	3	4	
A	1-3/4"	3-1/2"	5-1/4"	7"	
W	3-1/4"	5"	6-3/4"	8-1/2"	

FEATURES

PHPR-50 – 1/2" slot

PHPR-75 – 3/4" slot

PHPR-10 – 1" slot

PHPR-15 – 1-1/2" slot

- Extruded aluminum face/Steel Plenum
- Available in 1 to 4 slots
- Available in 2', 3', 4' and 5' lengths
- Offers low pressure drop
- Integral light shield hides interior of unit
- Plenum inlets available in 6", 8", 10" and 12"
- White face/ Black interior

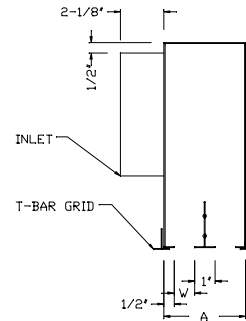
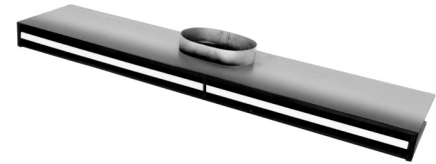
Length	1,2,3,4 Slot
24"	X
36"	X
48"	X
60"	X

Other sizes available upon request

MODEL PHPR

Plenum Slot Return Diffuser, T-Bar

ALUMINUM/STEEL



MODEL PHPR				1 SLOT	2 SLOT	3 SLOT	4 SLOT
	W	L		A	A	A	A
PHPR-50-6	1/2"	24", 36", 48", 60"	1-1/2'	3"	4-1/2'	6"	
PHPR-75-6	3/4"	24", 36", 48", 60"	1-3/4'	3-1/2"	5-1/4"	7"	
PHPR-10-6	1"	24", 36", 48", 60"	2'	4"	6"	8"	
PHPR-15-6	1-1/2"	24", 36", 48", 60"	2-1/2'	5"	7-1/2"	10"	

FEATURES

PHPS-50 – 1/2" slot

PHPS-75 – 3/4" slot

PHPS-10 – 1" slot

PHPS-15 – 1-1/2" slot

- Extruded aluminum face/Steel Plenum
- Available in 1 to 4 slots
- Available in 2', 3', 4' and 5' lengths
- Pattern controllers are adjustable from face
- Volume or throw direction able to be adjusted from vertical to horizontal
- Plenum inlets available in 6", 8", 10" and 12"
- White face/ Black interior

Length	1,2,3,4 Slot
24"	X
36"	X
48"	X
60"	X

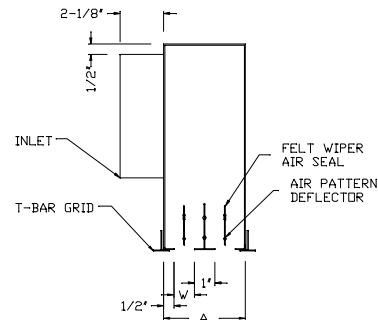
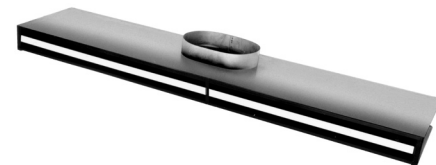
Other sizes available upon request

MODEL PHPS

Plenum Slot Supply Diffuser, T-Bar

ALUMINUM/STEEL

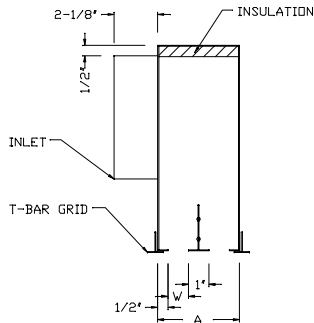
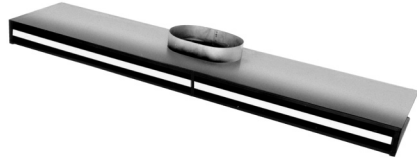
Performance data – pages 97-98



MODEL PHPS				1 SLOT	2 SLOT	3 SLOT	4 SLOT
	W	L		A	A	A	A
PHPS-50-6	1/2"	24", 36", 48", 60"	1-1/2'	3"	4-1/2'	6"	
PHPS-75-6	3/4"	24", 36", 48", 60"	1-3/4'	3-1/2"	5-1/4"	7"	
PHPS-10-6	1"	24", 36", 48", 60"	2'	4"	6"	8"	
PHPS-15-6	1-1/2"	24", 36", 48", 60"	2-1/2'	5"	7-1/2"	10"	

MODEL PHPRI

Insulated Plenum Slot Return Diffuser, T-Bar
ALUMINUM/STEEL



MODEL PHPRI		1 SLOT	2 SLOT	3 SLOT	4 SLOT
	W	L	A	A	A
PHPRI-50-6	1/2"	24", 36", 48", 60"	1-1/2"	3"	4-1/2"
PHPRI-75-6	3/4"	24", 36", 48", 60"	1-3/4"	3-1/2"	5-1/4"
PHPRI-10-6	1"	24", 36", 48", 60"	2"	4"	6"
PHPRI-15-6	1-1/2"	24", 36", 48", 60"	2-1/2"	5"	7-1/2"

FEATURES

- PHPRI-50 – 1/2" slot**
- PHPRI-75 – 3/4" slot**
- PHPRI-10 – 1" slot**
- PHPRI-15 – 1-1/2" slot**
- Extruded aluminum face/ Steel Plenum
- Available in 1 to 4 slots
- Available in 2', 3', 4' and 5' lengths
- Offers low pressure drop
- Integral light shield hides interior of unit
- Plenum inlets available in 6", 8", 10" and 12"
- White face/ Black interior

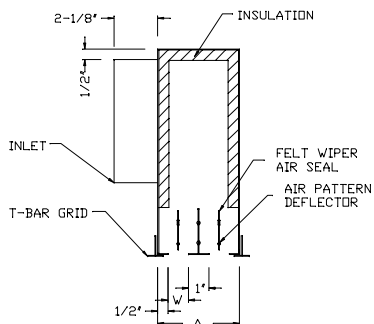
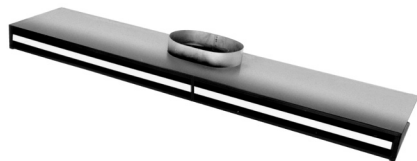
Length	1,2,3,4 Slot
24"	X
36"	X
48"	X
60"	X

Other sizes available upon request

MODEL PHPSI

Insulated Plenum Slot Supply Diffuser, T-Bar
ALUMINUM/STEEL

Performance data – pages 97-98



MODEL PHPSI		1 SLOT	2 SLOT	3 SLOT	4 SLOT
	W	L	A	A	A
PHPSI-50-6	1/2"	24", 36", 48", 60"	1-1/2"	3"	4-1/2"
PHPSI-75-6	3/4"	24", 36", 48", 60"	1-3/4"	3-1/2"	5-1/4"
PHPSI-10-6	1"	24", 36", 48", 60"	2"	4"	6"
PHPSI-15-6	1-1/2"	24", 36", 48", 60"	2-1/2"	5"	7-1/2"

FEATURES

- PHPSI-50 – 1/2" slot**
- PHPSI-75 – 3/4" slot**
- PHPSI-10 – 1" slot**
- PHPSI-15 – 1 1/2" slot**
- Extruded aluminum face/ Steel Plenum
- Available in 1 to 4 slots
- Available in 2', 3', 4' and 5' lengths
- Pattern controllers are adjustable from face
- Volume or throw direction able to be adjusted from vertical to horizontal
- Plenum inlets available in 6", 8", 10" and 12"
- White face/ Black interior

Length	1,2,3,4 Slot
24"	X
36"	X
48"	X
60"	X

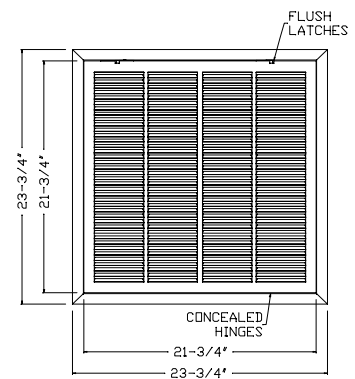
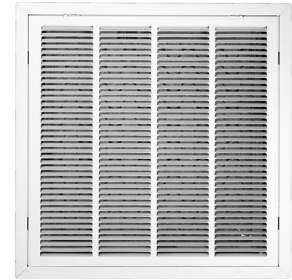
Other sizes available upon request

FEATURES

- Steel construction
- 24" x 24" T-bar lay-in
- 1/2" stamped louver face
- Concealed hinges and latches
- Accepts 1" disposable filter (not included)
- White finish

MODEL 1410FTB Return Air Filter Grille, T-Bar STEEL

Performance data – page 84

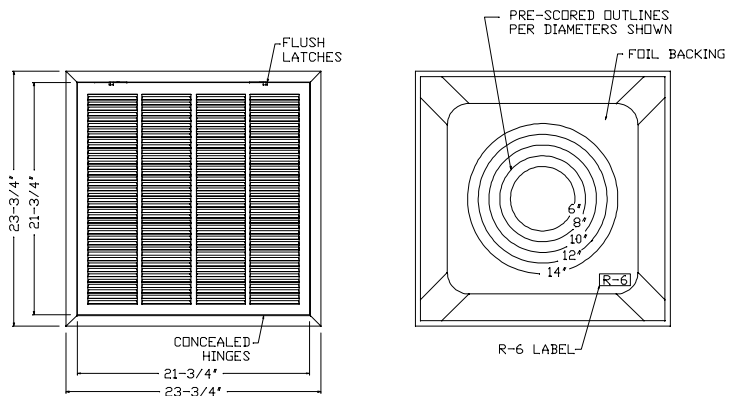
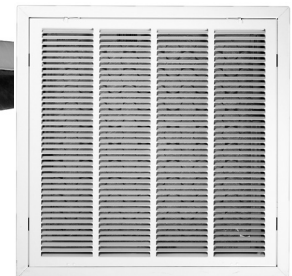


FEATURES

- Steel construction
- 24" x 24" T-Bar Lay-in
- 1/2" stamped louver face
- Concealed hinges and latches
- Accepts 1" disposable filter (not included)
- Includes R6 molded fiberglass back
- White finish

MODEL 1410FTBI Return Air Filter Grille w/R6 Molded Back, T-Bar STEEL

Performance data – page 84

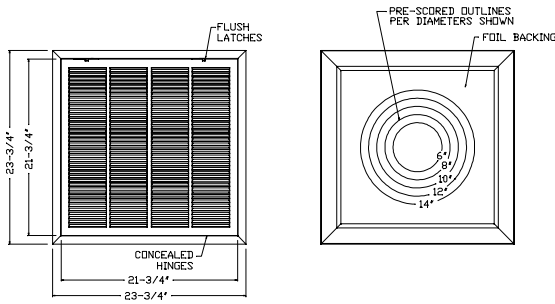
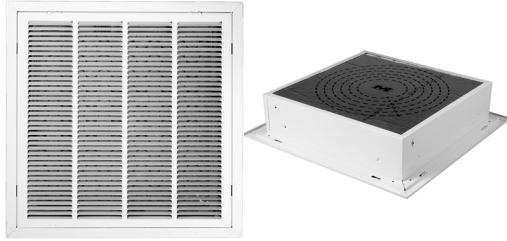


MODEL 1420F

Return Air Filter Grille, T-Bar w/Plenum Back

STEEL

Performance data – page 84



FEATURES

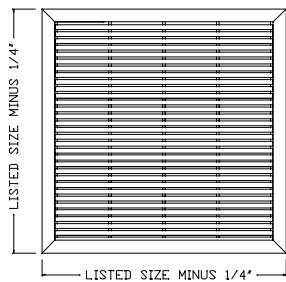
- Steel construction
- 24" x 24" T-bar lay-in
- 1/2" stamped louver face
- Concealed hinges and latches
- Accepts 1" disposable filter (not included)
- 5" deep plenum
- R6 fiberglass back plenum accepts 6" to 18" round spin-in collars (not included)
- White finish

MODEL SRH-6

Fixed Bar Return Air Grille, T-Bar

STEEL

Performance data – page 91



FEATURES

- Steel construction
- T-bar lay-in
- 2/3" Bar Spacing
- Horizontal bars are fixed at 45 degrees
- White finish

Height	Width	
	24"	48"
12"	X	
24"	X	X

FEATURES

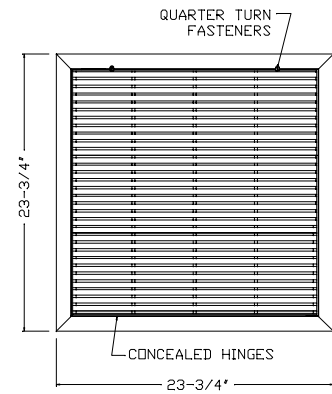
- Steel construction
- 24" x 24" T-bar lay-in
- 2/3" bar spacing
- Horizontal bars are fixed at 45 degrees
- Concealed hinges
- 1/4 turn latches for easy access to filter box
- Accepts 1" disposable filter (not included)
- White finish

MODEL SRHF-6

Fixed Bar Return Air Filter Grille, T-Bar

STEEL

Performance data – page 91



FEATURES

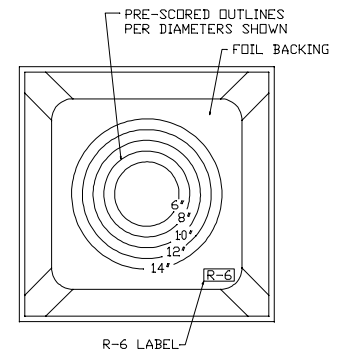
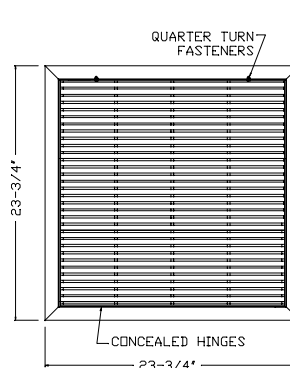
- Steel construction
- 24" x 24" T-bar lay-in
- 2/3" bar spacing
- Horizontal bars are fixed at 45 degrees
- Concealed hinges
- 1/4 turn latches for easy access to filter box
- Accepts 1" disposable filter (not included)
- Includes R6 molded fiberglass back
- White finish

MODEL SRHF1-6

Fixed Bar Return Air Filter Grille w/R6 Molded Back, T-Bar

STEEL

Performance data – page 91



MODEL SRH20F

Fixed Bar Return Air Filter Grille, T-Bar w/ Plenum Back

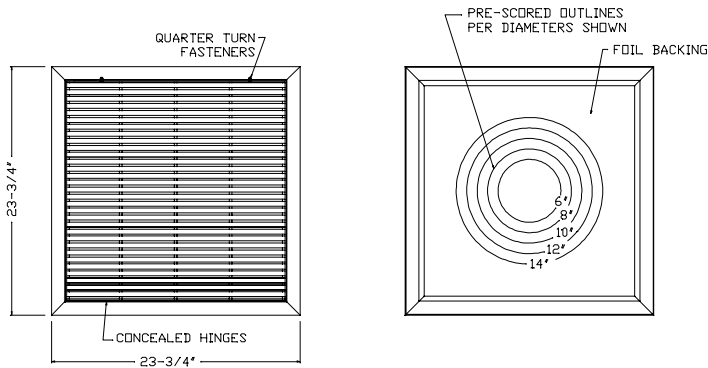
STEEL

Performance data – page 91



FEATURES

- Steel construction
- 24" x 24" T-bar lay-in
- 2/3" bar spacing
- Horizontal bars are fixed at 45 degrees
- Concealed hinges
- 1/4 turn latches for easy access to filter box
- Accepts 1" disposable filter (not included)
- 5" deep plenum
- R6 fiberglass back plenum accepts 6" to 18" round spin-in collars (not included)
- White finish



MODEL RHTB

Fixed Bar Return Air Grille, T-Bar

ALUMINUM

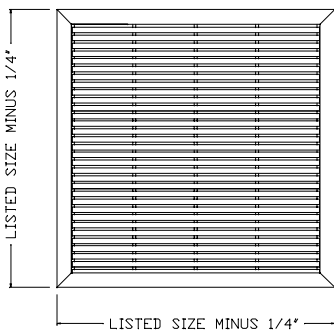
Performance data – page 91



FEATURES

- Aluminum construction
- T-bar lay-in
- 2/3" bar spacing
- Horizontal bars are fixed at 45 degrees
- Grille only
- White finish

Height	Width	
	24"	48"
12"	X	
24"	X	X



FEATURES

- Aluminum construction
- T-bar lay-in
- 2/3" bar spacing
- Horizontal bars are fixed at 45 degrees
- Concealed hinges
- 1/4 turn latches for access to filter box
- Accepts nominal 1" filters (not included)
- White finish

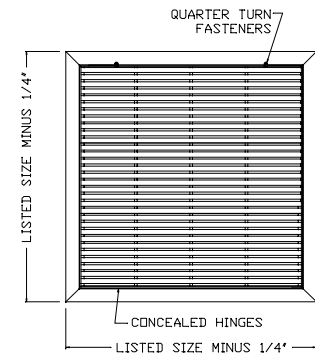
Height	Width		
	24"	36"	48"
12"	X		
24"	X	X	X

MODEL RHFTB

Fixed Bar Return Air Filter Grille, T-Bar

ALUMINUM

Performance data – page 91



FEATURES

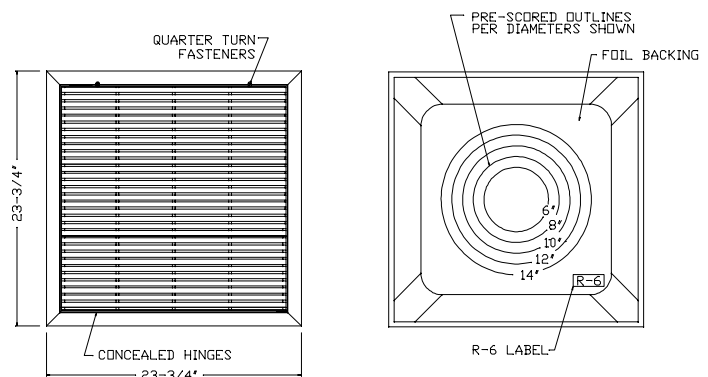
- Aluminum construction
- 24" x 24" T-bar lay-in
- 2/3" bar spacing
- Horizontal bars are fixed at 45 degrees
- Concealed hinges
- 1/4 turn latches for access to filter box
- Accepts nominal 1" filters (not included)
- Includes R6 molded fiberglass back
- White finish

MODEL RHFTBI

Fixed Bar Return Air Filter Grille w/R6 Molded Back, T-Bar

ALUMINUM

Performance data – page 91

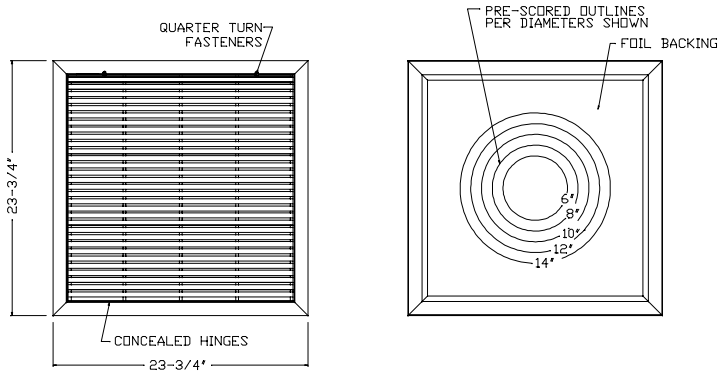


MODEL RH20F

Fixed Bar Return Air Filter Grille, T-Bar w/ Plenum Back

ALUMINUM

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FEATURES

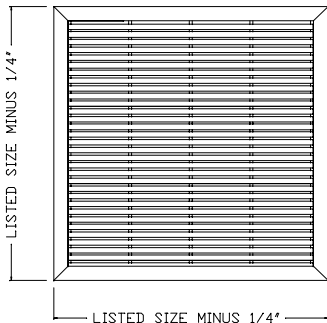
- Aluminum construction
- 24" x 24" T-bar lay-in
- Horizontal bar type face at 2/3" centers
- Blades set at 45 degrees
- Concealed hinges
- 1/4 turn latches for easy access to filter box
- Accepts 1" disposable filter (not included)
- 5" deep plenum
- R6 fiberglass back plenum accepts 6" to 18" round spin-in collars (not included)
- White finish

MODEL RHETB

Fixed Bar Return Air Grille, T-Bar

EXTRUDED ALUMINUM

Performance data – page 91



FEATURES

- Extruded aluminum construction
- T-bar lay-in
- 2/3" bar spacing
- Horizontal bars are fixed at 45 degrees
- Grille only
- White finish

Height	Width	
	24"	48"
12"	X	
24"	X	X

FEATURES

- Extruded aluminum construction
- T-bar lay-in
- 2/3" bar spacing
- Horizontal bars are fixed at 45 degrees
- Concealed hinges
- 1/4 turn latches for access to filter box
- Accepts nominal 1" filters (not included)
- White finish

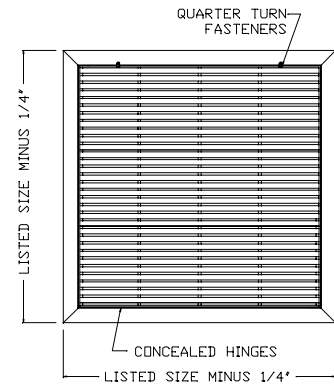
Height	Width		
	24"	36"	48"
12"	X		
24"	X	X	X

MODEL RHEFTB

Fixed Bar Return Air Filter Grille, T-Bar

EXTRUDED ALUMINUM

Performance data – page 91



FEATURES

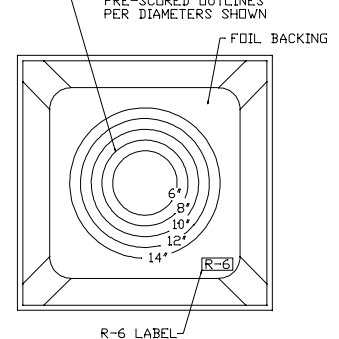
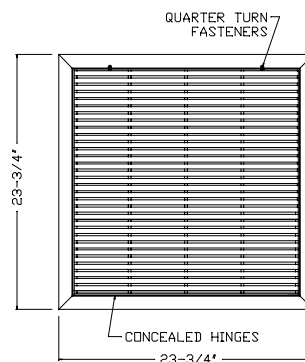
- Aluminum construction
- 24" x 24" T-bar lay-in
- 2/3" bar spacing
- Horizontal bars are fixed at 45 degrees
- Concealed hinges
- 1/4 turn latches for access to filter box
- Accepts nominal 1" filters (not included)
- Includes R6 molded fiberglass back
- White finish

MODEL RHEFTBI

Fixed Bar Return Air Filter Grille w/R6 Molded Back, T-Bar

EXTRUDED ALUMINUM

Performance data – page 91

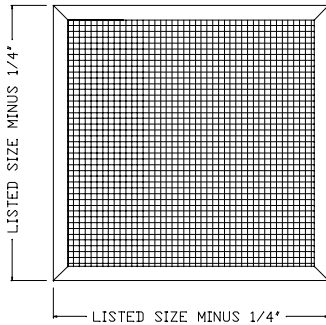
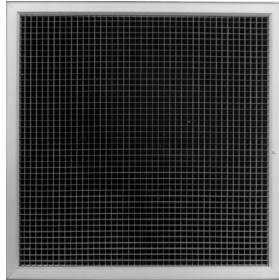


MODEL CC5TB

Cube Core Return Air Grille, T-Bar

EXTRUDED ALUMINUM

Performance data – page 91



FEATURES

- Extruded aluminum construction
- 24" x 24" T-bar lay-in
- 1/2" x 1/2" x 1/2" cube core
- Offers 90% free area
- Grille only
- White finish

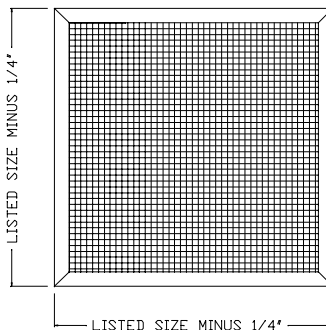
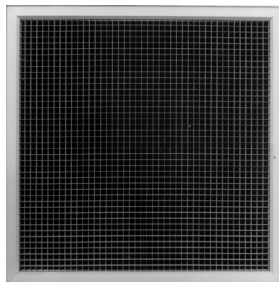
Module	24"	48"
12"	X	
24"	X	X

MODEL CC5DTB

Cube Core Return Air Grille w/OBD, T-Bar

EXTRUDED ALUMINUM

Performance data – page 91



FEATURES

- Extruded aluminum construction
- T-bar lay-in
- 1/2" x 1/2" x 1/2" cube core
- Offers 90% free area
- Includes opposed blade damper
- White finish

Module	24"	48"
12"	X	
24"	X	X

FEATURES

- Extruded aluminum construction
- T-bar lay-in
- 1/2" x 1/2" x 1/2" cube core
- Offers 90% free area
- Accepts nominal 1" filter (not included)
- Concealed hinges
- 1/4 turn latches for easy access to filter box
- White finish

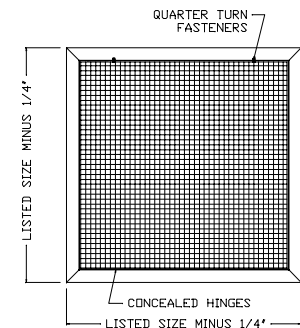
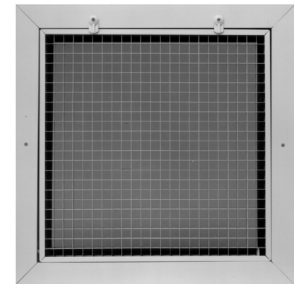
Module	24"	48"
12"	X	
24"	X	X

MODEL CC5FTB

Cube Core Return Air Filter Grille, T-Bar

EXTRUDED ALUMINUM

Performance data – page 91



FEATURES

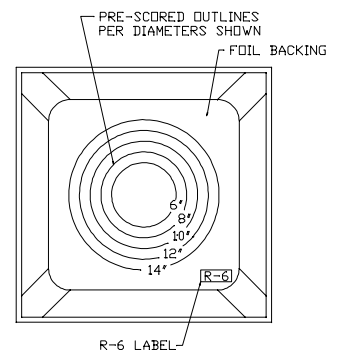
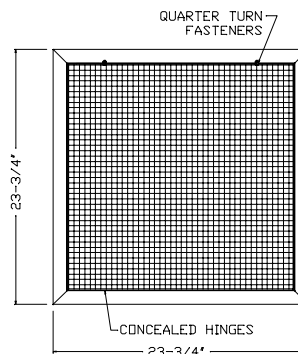
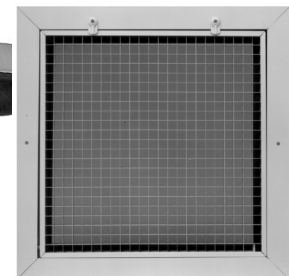
- Extruded aluminum construction
- 24"x24" T-bar lay-in
- 1/2" x 1/2" x 1/2" cube core
- Offers 90% free area
- Accepts nominal 1" filter (not included)
- Concealed hinges
- 1/4 turn latches for easy access to filter box
- Includes R6 molded fiberglass back
- White finish

MODEL CC5FTBI

Cube Core Return Air Filter Grille w/R6 Molded Back, T-Bar

EXTRUDED ALUMINUM

Performance data – page 91

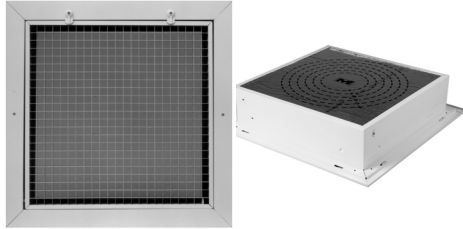


MODEL CC520F

Cube Core Return Air Filter Grille, T-Bar w/Plenum Back

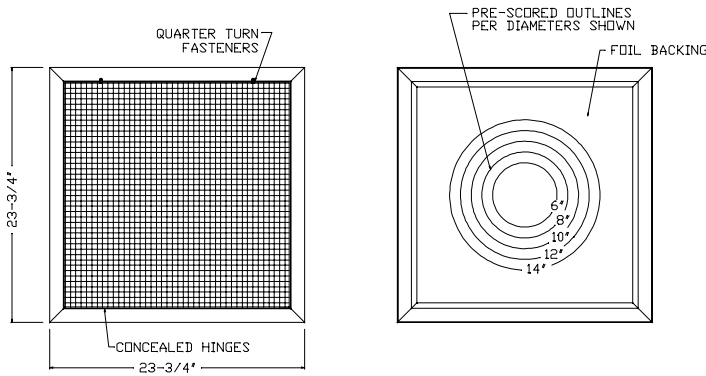
EXTRUDED ALUMINUM

Performance data – page 91



FEATURES

- Extruded aluminum construction
- 24" x 24" T-bar lay-in
- 1/2" x 1/2" x 1/2" cube core
- Offers 90% free area
- Concealed hinges
- 1/4 turn latches for easy access to filter box
- Accepts 1" disposable filter (not included)
- 5" deep plenum
- R6 fiberglass back plenum accepts 6"-18" round spin-in collars (not included)
- White finish

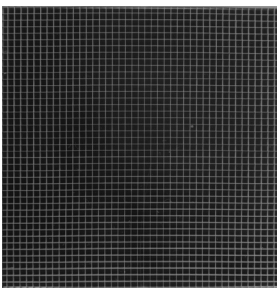


MODEL CC5CO

Cube Core Return Air Grille, T-Bar, Core Only

EXTRUDED ALUMINUM

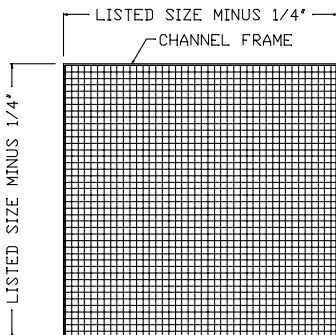
Performance data – page 91



FEATURES

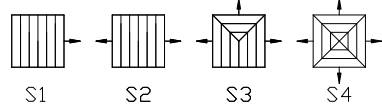
- Extruded aluminum construction
- T-bar lay-in
- 1/2" x 1/2" x 1/2" cube core
- Offers 90% free area
- Core only, channel frame
- White finish

Module	24"	48"
12"	X	
24"	X	X



FEATURES

- All aluminum construction
- 24" x 24" T-bar lay-in
- Face/frame only in panel
- Removable core
- White finish
- Patterns: S1 – One Way S2 – Two Way
S3 – Three Way S4 – Four Way



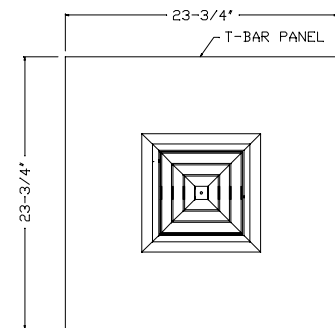
	Height	Width						
		6"	8"	10"	12"	14"	16"	18"
Module Size 24"x24"	6"	X						
	8"		X					
	10"			X				
	12"				X			
	14"					X		
	16"						X	
	18"							X

MODEL 5200-6

Louver Face Ceiling Diffuser, T-Bar

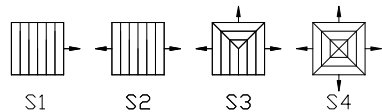
ALUMINUM

Performance data – page 87



FEATURES

- All aluminum construction
- 24" x 24" T-bar lay-in
- Removable core
- Includes opposed blade damper
- White finish
- Patterns: S1 – One Way S2 – Two Way
S3 – Three Way S4 – Four Way



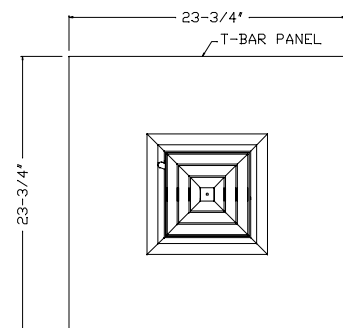
	Height	Width						
		6"	8"	10"	12"	14"	16"	18"
Module Size 24"x24"	6"	X						
	8"		X					
	10"			X				
	12"				X			
	14"					X		
	16"						X	
	18"							X

MODEL 5200-6D

Louver Face Ceiling Diffuser w/OBD, T-Bar

ALUMINUM

Performance data – page 87

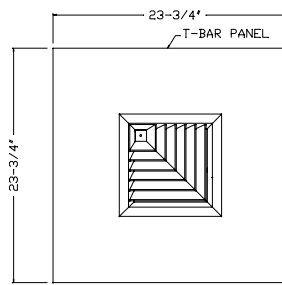
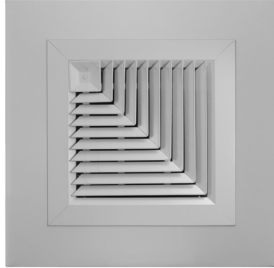


MODEL 5200-6 2C

Louver Face Ceiling Diffuser, Corner, T-Bar

ALUMINUM

Performance data – page 87



FEATURES

- All aluminum construction
- 24" x 24" T-bar lay-in
- Face/frame only in panel
- Removable core
- White finish
- Pattern: 2C – Two Way Corner



2C

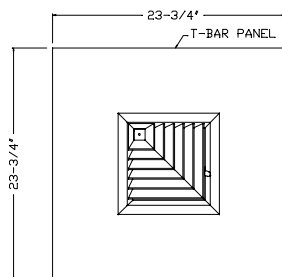
	Height	Width						
		6"	8"	10"	12"	14"	16"	18"
Module Size 24"x24"	6"	X						
	8"		X					
	10"			X				
	12"				X			
	14"					X		
	16"						X	
	18"						X	

MODEL 5200-6D 2C

Louver Face Ceiling Diffuser, Corner, w/OBD, T-Bar

ALUMINUM

Performance data – page 87



FEATURES

- All aluminum construction
- 24" x 24" T-bar lay-in
- Removable core
- Includes opposed blade damper
- White Finish
- Pattern: 2C – Two Way Corner



2C

	Height	Width						
		6"	8"	10"	12"	14"	16"	18"
Module Size 24"x24"	6"	X						
	8"		X					
	10"			X				
	12"				X			
	14"					X		
	16"						X	
	18"						X	

FEATURES

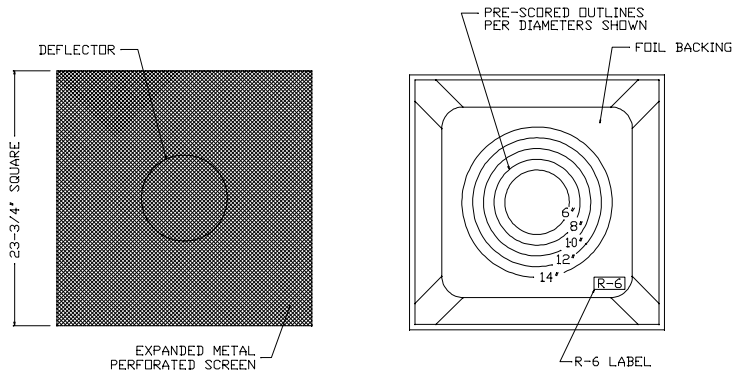
- Steel construction
- 24" x 24" T-bar lay-in
- Expanded metal face panel
- R6 molded fiberglass back panel
- Includes round disk on face
- White finish

MODEL 7300-6

Expanded Metal Supply w/Round Disk, R6 Molded Back, T-Bar

STEEL

Performance data – page 99



FEATURES

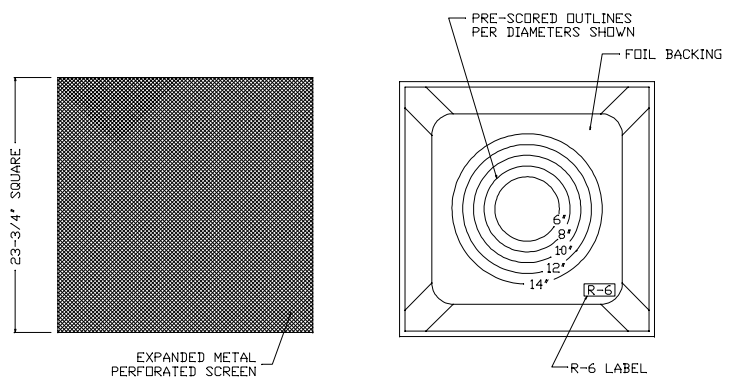
- All aluminum construction
- 24" x 24" T-bar lay-in
- Expanded metal face panel
- R6 molded fiberglass back panel
- Used for return applications
- White finish

MODEL 7300R-6

Expanded Metal Return, R6 Molded Back, T-Bar

STEEL

Performance data – page 99



MODEL 7305-6

Expanded Metal Supply w/Adjustable Deflectors, R6 Molded Back, T-Bar

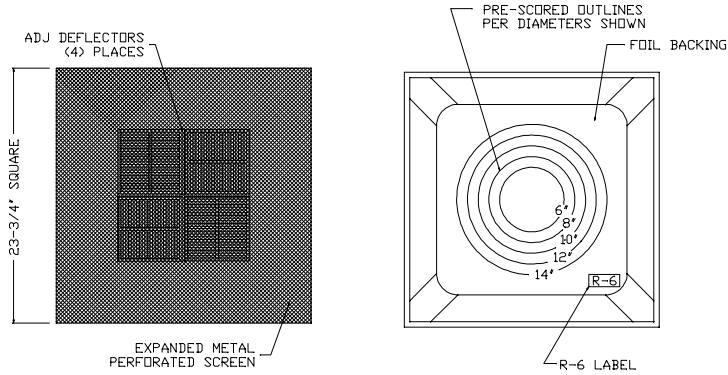
STEEL

Performance data – page 99



FEATURES

- Steel construction
- 24" x 24" T-bar lay-in
- Expanded metal face panel
- R6 molded fiberglass back panel
- Includes adjustable deflectors on face panel
- White finish

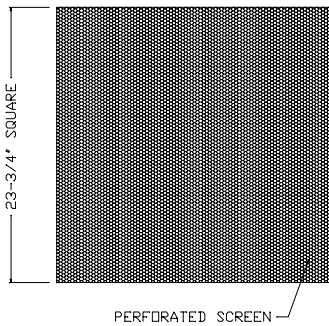
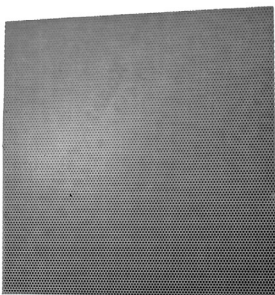


MODEL SPRTB

Perforated Panel – Face Only, T-Bar

STEEL

Performance data – page 99



FEATURES

- Steel construction
- T-bar lay-in
- Perforated face panel only
- White finish

Height	Width			
	12"	24"	36"	48"
12"	X	X		X
24"		X	X	X

FEATURES

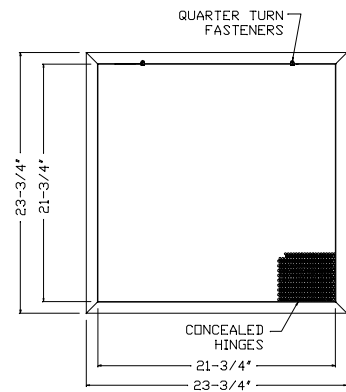
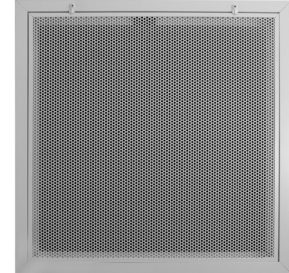
- Steel construction
- 24" x 24" T-bar lay-in
- Perforated face panel
- Concealed hinges and latches
- Accepts 1" disposable filter (not included)
- White finish

MODEL SPRFTB

Perforated Face Filter Grille, T-Bar

STEEL

Performance data – page 99



FEATURES

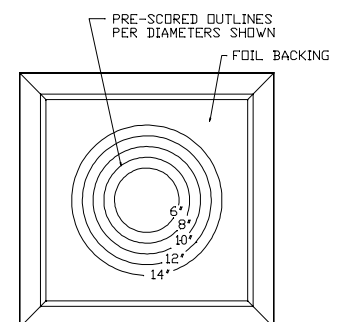
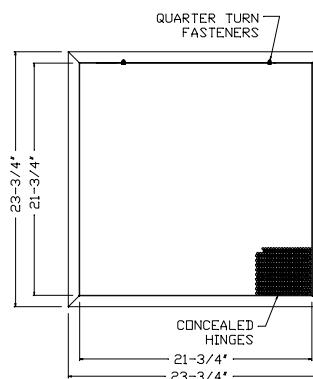
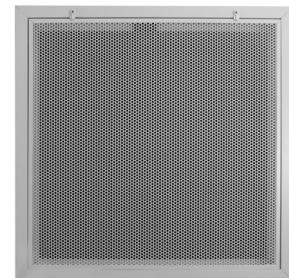
- Steel construction
- 24" x 24" T-bar lay-in
- Perforated face panel
- Concealed hinges and latches
- Accepts 1" disposable filter (not included)
- 5" deep plenum box
- R6 fiberglass back plenum accepts 6" to 18" round spin-in collars (not included)
- White finish

MODEL SPR20F

Perforated Face Filter Grille, T-Bar w/ Plenum Back

STEEL

Performance data – page 99

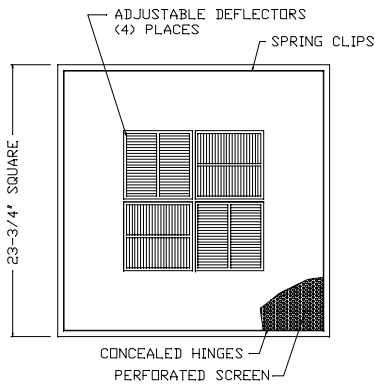
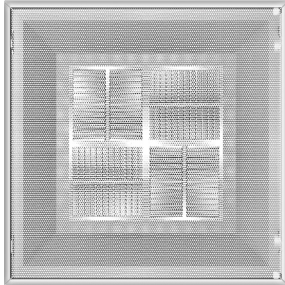


MODEL 7500-6

Perforated Supply Diffuser w/ Pattern Deflectors, Removable Face, Round Neck, Steel Back, T-Bar

STEEL

Performance data – page 99



FEATURES

- Steel construction
- 24" x 24" T-bar lay-in
- Perforated steel face
- Steel back panel
- Concealed hinges and latches
- Includes adjustable pattern deflectors on back of face panel
- Includes integral collar to accept Model BDS or RDS dampers
- White finish (optional black finish on back panel)

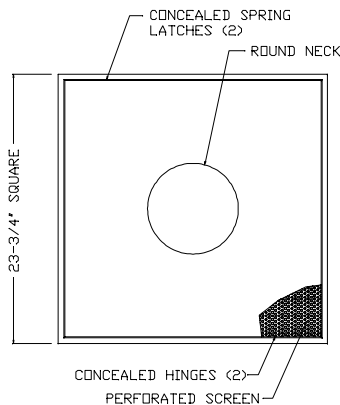
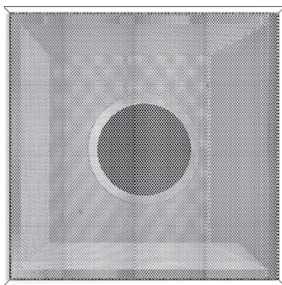
Module 24x24	Diameter				
	6"	8"	10"	12"	14"
	X	X	X	X	X

MODEL 7500R-6

Perforated Return Diffuser, Removable Face, Round Neck, Steel Back, T-Bar

STEEL

Performance data – page 99



FEATURES

- Steel construction
- 24" x 24" T-bar lay-in
- Perforated steel face
- Steel back panel
- Concealed hinges and latches
- Includes integral collar to accept Model BDS or RDS dampers
- White finish (optional black finish on back panel)

Module 24x24	Diameter				
	6"	8"	10"	12"	14"
	X	X	X	X	X

FEATURES

- Steel construction
- 24" x 24" T-bar lay-in
- Perforated steel face
- Steel back panel
- Concealed hinges and latches
- Square collar
- White finish (optional black finish on back panel)

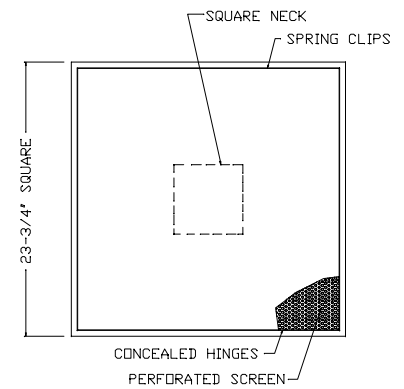
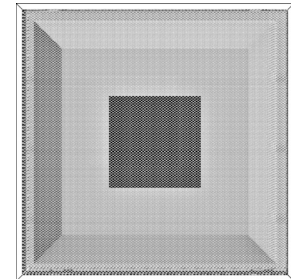
Module	Neck Size							
	6"x6"	8"x8"	10"x10"	12"x12"	14"x14"	16"x16"	18"x18"	22"x22"
24x24	X	X	X	X	X	X	X	X

MODEL 7550R-6

**Perforated Return Diffuser, Removable Face,
Square Neck, Steel Back, T-Bar**

STEEL

Performance data – page 99

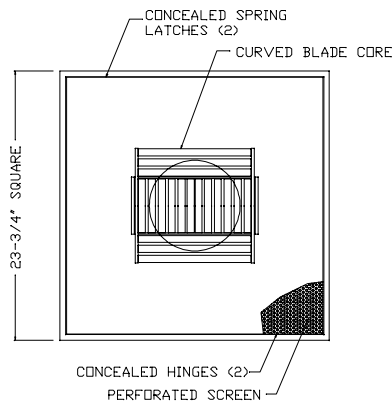
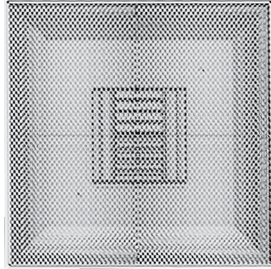


MODEL 7600-6

**Curved Blade Perforated Supply,
Removable Face, Steel Back, T-Bar**

STEEL

Performance data – page 99



FEATURES

- Steel construction
- 24" x 24" T-bar lay-in
- Perforated steel face
- Steel back panel
- Concealed hinges and latches
- Includes adjustable curved blade pattern deflectors attached to back panel
- Includes integral collar to accept Model BDS or RDS dampers
- White finish (optional black finish on back panel)

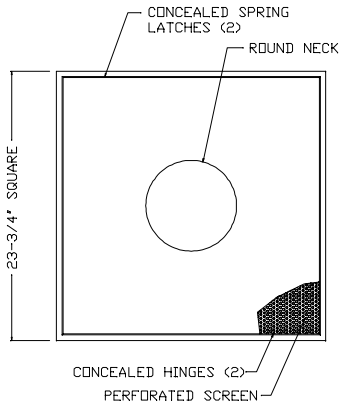
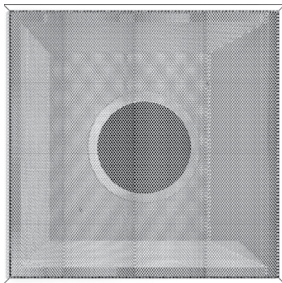
Module 24x24	Diameter				
	6"	8"	10"	12"	14"
	X	X	X	X	X

MODEL 7600R-6

**Perforated Return, Removable Face,
Round Neck, Steel Back, T-Bar**

STEEL

Performance data – page 99



FEATURES

- Steel construction
- 24" x 24" T-bar lay-in
- Perforated steel face
- Steel back panel
- Concealed hinges and latches
- Includes integral collar to accept Model BDS or RDS dampers
- White finish (optional black finish on back panel)

Module 24x24	Diameter				
	6"	8"	10"	12"	14"
	X	X	X	X	X

FEATURES

- Steel construction
- 24" x 24" T-bar lay-in
- 2 cone fixed design
- High capacity performance
- 2" standard inlet collar with integral bead
- 360 degree air pattern
- Removable center plug for damper access
- White finish

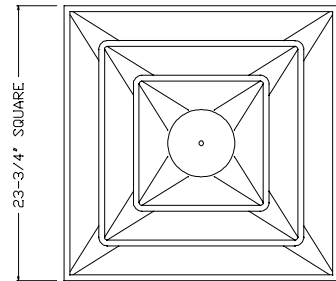
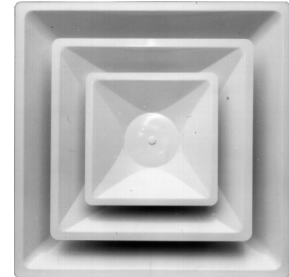
Module	Diameter				
	6"	8"	10"	12"	14"
24x24	X	X	X	X	X

MODEL 4700-6

Step Down Ceiling Diffuser, 2 Cone, T-Bar

STEEL

Performance data – page 93



FEATURES

- Steel construction
- 24" x 24" T-bar lay-in
- 2 cone fixed design
- High capacity performance
- 2" standard inlet collar with integral bead
- 360 degree air pattern
- Includes Model BDS damper
- Removable center plug for damper access
- White finish

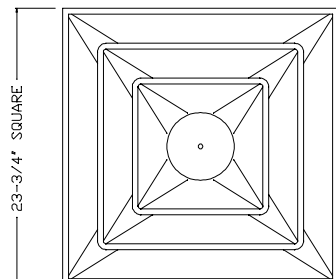
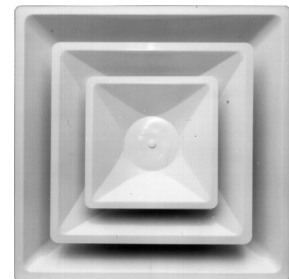
Module	Diameter				
	6"	8"	10"	12"	14"
24x24	X	X	X	X	X

MODEL 4700D-6

Step Down Ceiling Diffuser, 2 Cone, w/ Damper, T-Bar

STEEL

Performance data – page 93

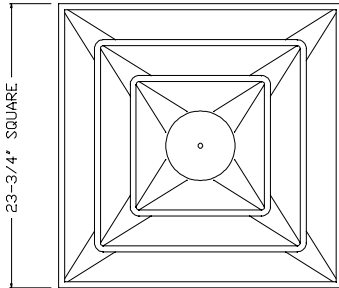
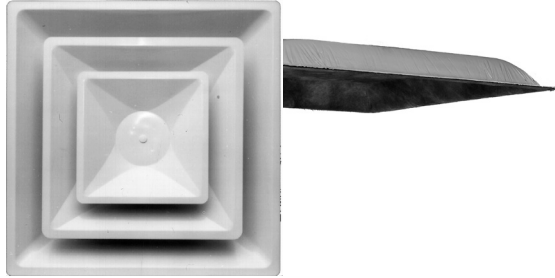


MODEL 4706-6

Step Down Ceiling Diffuser, 2 Cone, w/R6 Molded Back, T-Bar

STEEL

Performance data – page 93



FEATURES

- Steel construction
- 24" x 24" T-bar lay-in
- 2 cone fixed design
- High capacity performance
- 2" standard inlet collar with integral bead
- 360 degree air pattern
- Removable center plug for damper access
- Includes R6 molded fiberglass back
- White finish

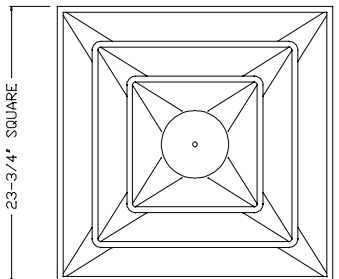
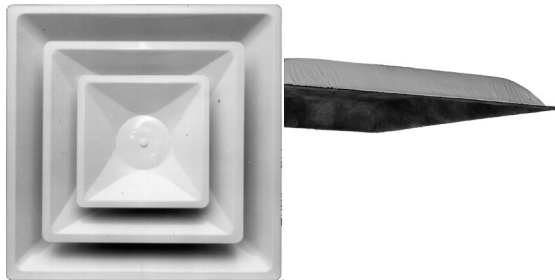
Module	Diameter				
	6"	8"	10"	12"	14"
24x24	X	X	X	X	X

MODEL 4706D-6

Step Down Ceiling Diffuser, 2 Cone, w/R6 Molded Back, w/Damper, T-Bar

STEEL

Performance data – page 93



FEATURES

- Steel construction
- 24" x 24" T-bar lay-in
- 2 cone fixed design
- High capacity performance
- 2" standard inlet collar with integral bead
- 360 degree air pattern
- Includes Model BDS damper
- Includes R6 molded fiberglass back
- Removable center plug for damper access
- White finish

Module	Diameter				
	6"	8"	10"	12"	14"
24x24	X	X	X	X	X

FEATURES

- Steel construction
- 24" x 24" T-bar lay-in
- Plaque panel design
- High capacity performance
- 2" standard inlet collar with integral bead
- 360 degree air pattern
- Removable panel
- White finish

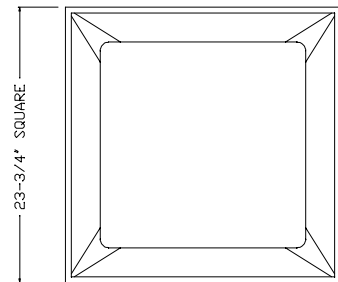
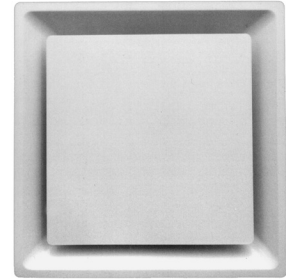
Module	Diameter				
	6"	8"	10"	12"	14"
24x24	X	X	X	X	X

MODEL 4750-6

Plaque Panel Ceiling Diffuser, T-Bar

STEEL

Performance data – page 93



FEATURES

- Steel construction
- 24" x 24" T-bar lay-in
- Plaque panel design
- High capacity performance
- 2" standard inlet collar with integral bead
- 360 degree air pattern
- Includes Model BDS damper
- Removable panel
- White finish

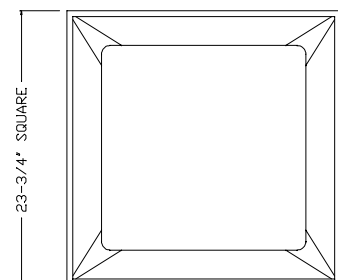
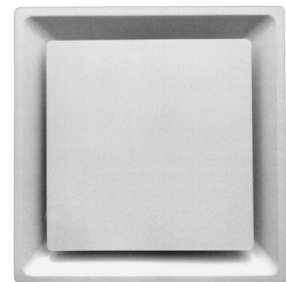
Module	Diameter				
	6"	8"	10"	12"	14"
24x24	X	X	X	X	X

MODEL 4750D-6

Plaque Panel Ceiling Diffuser w/Damper, T-Bar

STEEL

Performance data – page 93

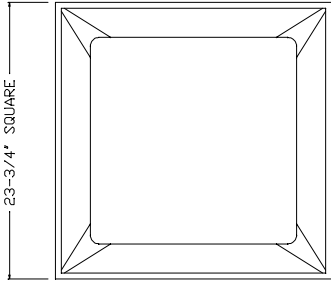
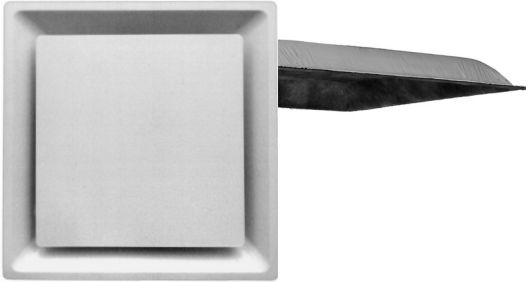


MODEL 4756-6

Plaque Panel Ceiling Diffuser w/R6 Molded Back, T-Bar

STEEL

Performance data – page 93



FEATURES

- Steel construction
- 24" x 24" T-bar lay-in
- Plaque panel design
- High capacity performance
- 2" standard inlet collar with integral bead
- 360 degree air pattern
- Includes R6 molded fiberglass back
- Removable panel
- White finish

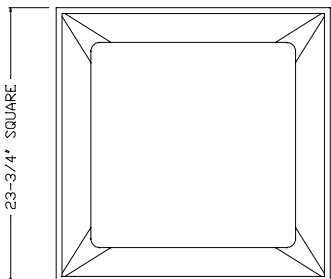
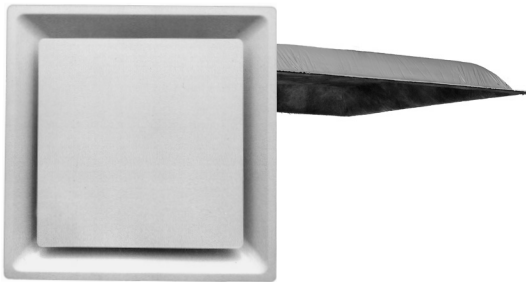
Module	Diameter				
	6"	8"	10"	12"	14"
24x24	X	X	X	X	X

MODEL 4756D-6

Plaque Panel Ceiling Diffuser w/R6 Molded Back, Damper, T-Bar

STEEL

Performance data – page 93



FEATURES

- Steel construction
- 24" x 24" T-bar lay-in
- Plaque panel design
- High capacity performance
- 2" standard inlet collar with integral bead
- 360 degree air pattern
- Includes Model BDS damper
- Includes R6 molded fiberglass back
- Removable panel
- White finish

Module	Diameter				
	6"	8"	10"	12"	14"
24x24	X	X	X	X	X

FEATURES

- Steel construction
- 24" x 24" T-bar lay-in
- 3 cone fixed design
- High capacity performance
- 2" standard inlet collar with integral bead
- 360 degree air pattern picture
- Removable center plug for damper access
- White finish

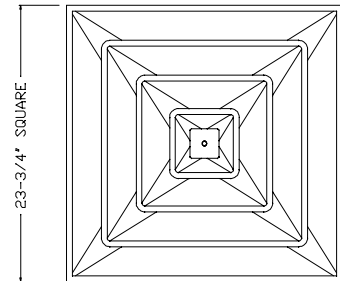
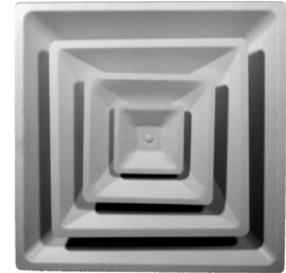
Module	Diameter				
	6"	8"	10"	12"	14"
24x24	X	X	X	X	X

MODEL 4800-6

Step Down Ceiling Diffuser, 3 Cone, T-Bar

STEEL

Performance data – page 93



FEATURES

- Steel construction
- 24" x 24" T-bar lay-in
- 3 cone fixed design
- High capacity performance
- 2" standard inlet collar with integral bead
- 360 degree air pattern
- Includes Model BDS damper
- Removable center plug for damper access
- White finish

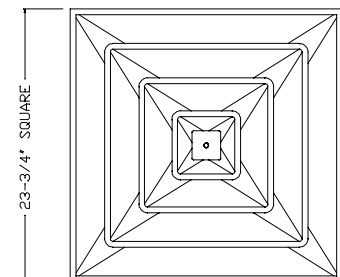
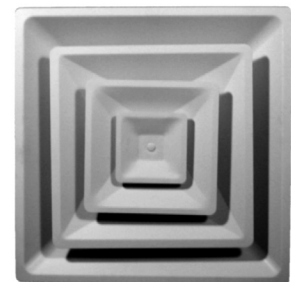
Module	Diameter				
	6"	8"	10"	12"	14"
24x24	X	X	X	X	X

MODEL 4800D-6

Step Down Ceiling Diffuser, 3 Cone w/ Damper, T-Bar

STEEL

Performance data – page 93

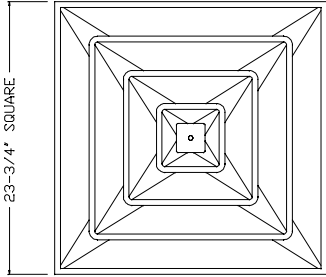
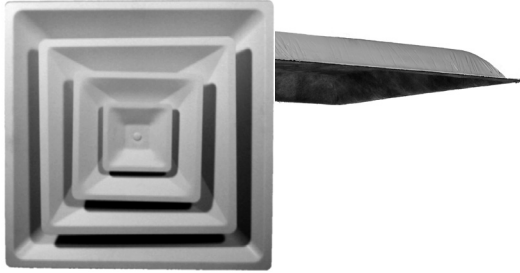


MODEL 4806-6

Step Down Ceiling Diffuser, 3 Cone, w/R6 Molded Back, T-Bar

STEEL

Performance data – page 93



FEATURES

- Steel construction
- 24" x 24" T-bar lay-in
- 3 cone fixed design
- High capacity performance
- 2" standard inlet collar with integral bead
- 360 degree air pattern
- Removable center plug for damper access
- Includes R6 molded fiberglass back
- White finish

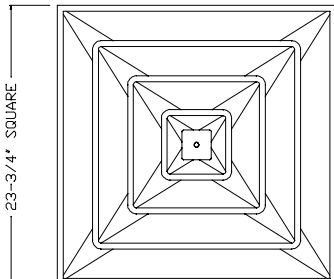
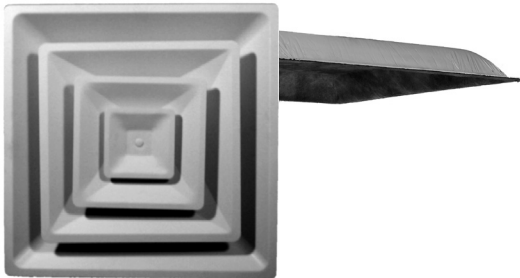
Module 24x24	Diameter				
	6"	8"	10"	12"	14"
	X	X	X	X	X

MODEL 4806D-6

Step Down Ceiling Diffuser, 3 Cone, w/R6 Molded Back, Damper, T-Bar

STEEL

Performance data – page 93



FEATURES

- Steel construction
- 24" x 24" T-bar lay-in
- 3 cone fixed design
- High capacity performance
- 2" standard inlet collar with integral bead
- 360 degree air pattern
- Includes Model BDS damper
- Includes R6 molded fiberglass back
- Removable center plug for damper access
- White finish

Module 24x24	Diameter				
	6"	8"	10"	12"	14"
	X	X	X	X	X

FEATURES

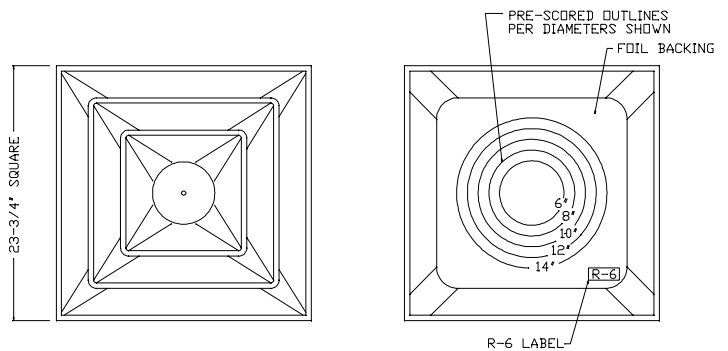
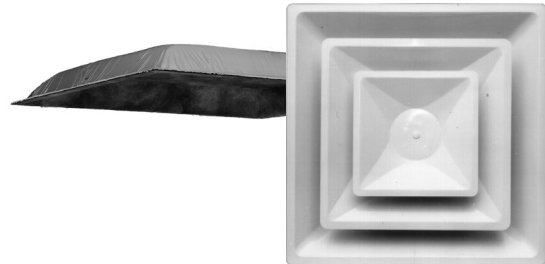
- Steel construction
- 24" x 24" T-bar lay-in
- 2 cone fixed design
- High capacity performance
- Includes R6 molded fiberglass back
- Accepts 6" to 15" spin-in collar (by others)
- Accepts Snap-59 collar (order separately)
- 360 degree air pattern
- Removable center plug for damper access
- White finish

MODEL 5906-6

**Step Down Ceiling Diffuser, 2 Cone,
w/R6 Molded Back for Spin-in Collars, T-Bar**

STEEL

Performance data – page 93



FEATURES

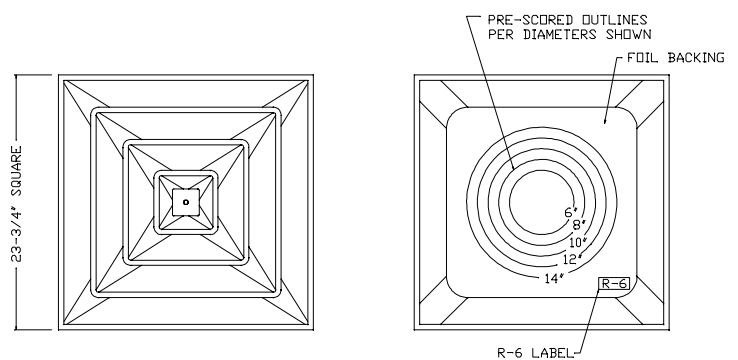
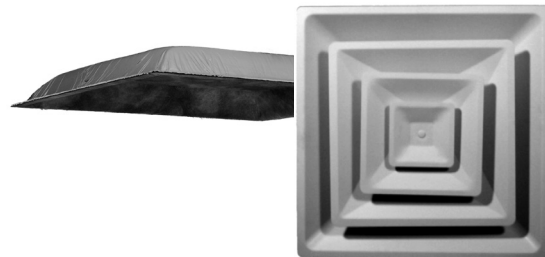
- Steel construction
- 24" x 24" T-bar lay-in
- 3 cone fixed design
- High capacity performance
- Includes R6 molded fiberglass back
- Accepts 6" to 15" spin-in collar (by others)
- Accepts Snap-59 collar (order separately)
- 360 degree air pattern
- Removable center plug for damper access
- White finish

MODEL 5906-3-6

**Step Down Ceiling Diffuser, 3 Cone,
w/R6 Molded Back for Spin-in Collars, T-Bar**

STEEL

Performance data – page 93

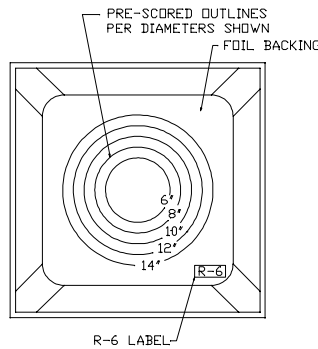
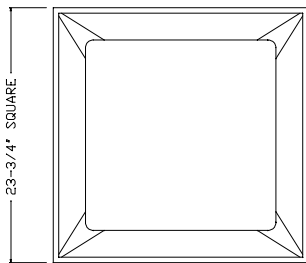
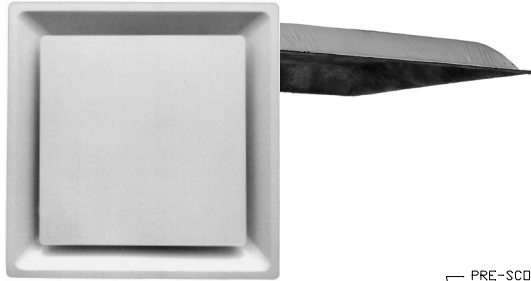


MODEL 5956-6

Plaque Panel Ceiling Diffuser
w/R6 Molded Back for Spin-in Collars, T-Bar

STEEL

Performance data – page 93



FEATURES

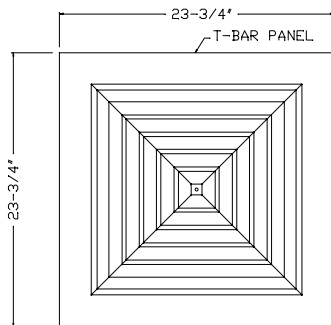
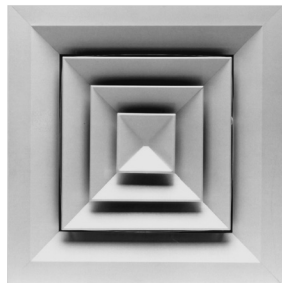
- Steel construction
- 24" x 24" T-bar lay-in
- Plaque panel design
- High capacity performance
- 360 degree air pattern
- Includes R6 molded fiberglass back
- Removable panel
- Accepts 6" to 15" spin-in collars (by others)
- Accepts Snap-59 collar (order separately)
- White finish

MODEL 4900-6

Square Louver Face Ceiling Diffuser, T-Bar

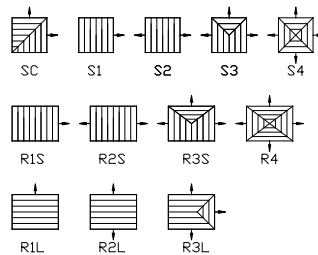
EXTRUDED ALUMINUM

Performance data – page 100



FEATURES

- Extruded aluminum construction
- 24" x 24" T-bar lay-in
- Louver face design on 12" x 12" or 24" x 24" panel
- High capacity performance
- 360 degree air pattern
- White finish



Panel	Height	Width					
		6"	9"	12"	15"	18"	21"
12x12	6"	X					
	9"	X	X				
24x24	12"	X	X	X			
	15"	X	X	X	X		
	18"	X	X	X	X	X	
	21"						X

FEATURES

- Extruded aluminum construction
- 24" x 24" T-bar lay-in
- Modular core design
- Removable cores for 1, 2, 3 and 4 way patterns
- White finish

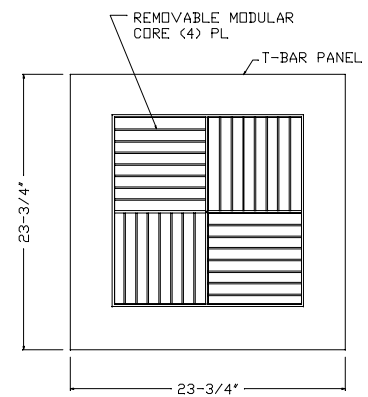
Module	Height	Width							
		6"	8"	10"	12"	14"	16"	18"	20"
12x12	8"		X						
24x24	6"	X							
	8"		X						
	10"			X					
	12"				X				
	14"					X			
	16"						X		
	18"							X	
	20"							X	

MODEL 9000-6

Mod Core Ceiling Diffuser, T-Bar

EXTRUDED ALUMINUM

Performance data – page 90



FEATURES

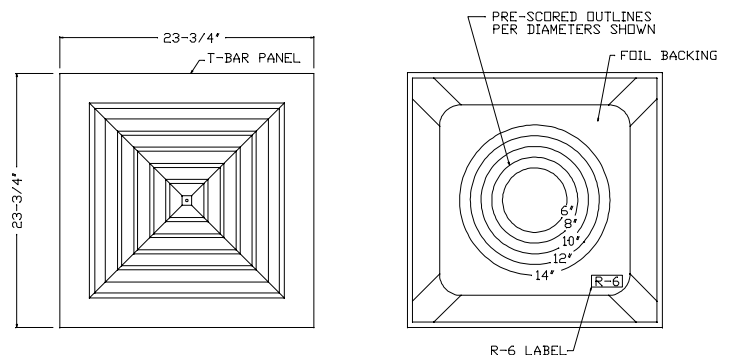
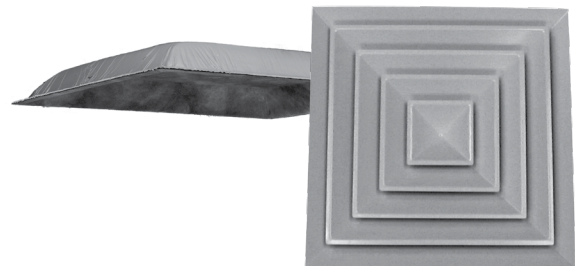
- Steel construction
- 24" x 24" T-bar lay-in
- 4 way louver face design
- 360 degree air pattern
- Includes R6 molded fiberglass back
- Accepts 6" to 15" spin-in collars (by others)
- White finish

MODEL 5500SI-6

Louvered Face Ceiling Diffuser w/R6 Molded Back for Spin-in Collars, T-Bar

STEEL

Performance data – page 92

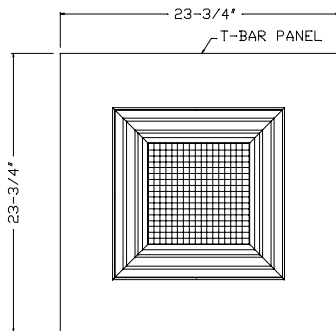
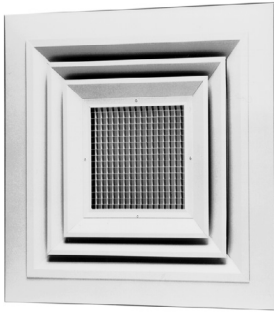


MODEL 5500 DAF-CC5-6

**Concentric Supply/Return Diffuser,
Louver Face – Cube Core, T-Bar**

EXTRUDED ALUMINUM

Performance data – page 92



FEATURES

- 1/2 24" x 24" T-bar lay-in
- Extruded aluminum louver outer 4 way supply
- Cube core center snap-in/out return
- White finish
- Supply/return plenums by others

Module	Square Neck Sizes	
	Supply	Return
24x24	12"x12"	9"x9"
	15"x15"	9"x9"
	18"x18"	12"x12"
	21"x21"	15"x15"
48x24	36"x12"	30"x6"
	39"x15"	33"x9"
	42"x18"	36"x12"
	45"x21"	39"x15"
48x48	24"x24"	12"x12"
	27"x27"	15"x15"
	30"x30"	18"x18"
	33"x33"	21"x21"
	36"x36"	24"x24"
	39"x39"	27"x27"
	42"x42"	30"x30"

FEATURES

- Steel construction
- Round panel with 6" to 14" integral neck
- Neck is 1-1/2" high

Diameter				
6"	8"	10"	12"	14"
X	X	X	X	X

MODEL SNAP 59

Snap-in Collar, 1 1/2" high

STEEL



FEATURES

- Steel construction
- Round panel with 6" to 14" integral neck
- Neck is 2" high

Diameter				
6"	8"	10"	12"	14"
X	X	X	X	X

MODEL SNAP 59-2

Snap-in Collar, 2" high

STEEL



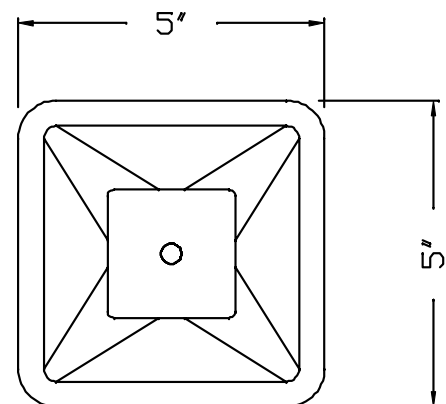
FEATURES

- Steel construction
- Center cup that converts 2 cone 4700 to 3 cone

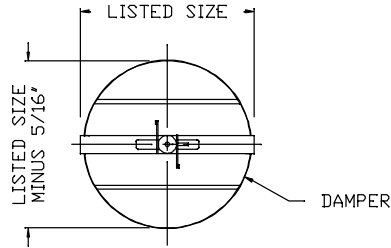
MODEL SNAP 58

Converts 2 Cone Diffuser to 3 Cone

STEEL



MODEL BDS Round Butterfly Damper STEEL

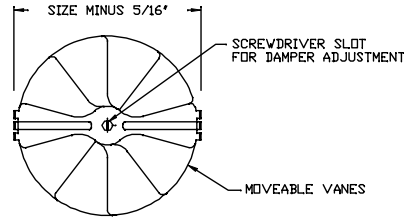
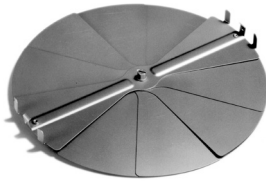


FEATURES

- Steel construction
- Butterfly style damper
- Blades are adjustable through diffuser face
- Includes damper operator
- Clips to top of collars

Diameter				
6"	8"	10"	12"	14"
X	X	X	X	X

MODEL RSD Radial Shutter Damper STEEL

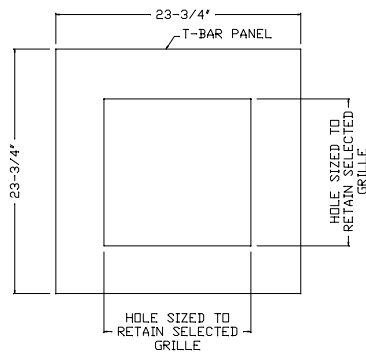
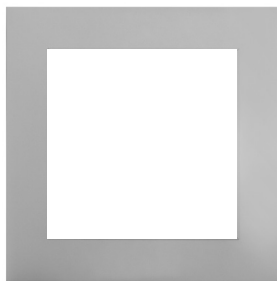


FEATURES

- Steel construction
- Radial shutter style damper
- 5 blades are adjusted through diffuser face
- Screwdriver adjustable
- Clips to top of collars

Diameter			
6"	8"	10"	12"
X	X	X	X

MODEL TBP/STBP T-Bar Mounting Panel ALUMINUM/STEEL



FEATURES

TBP – Aluminum

STBP – Steel

- T-bar mounting panel for grilles, registers and diffusers
- Can also be used as a solid filler panel for T-bar ceiling
- 24" x 24" panel
- Specify required hole size
- White finish

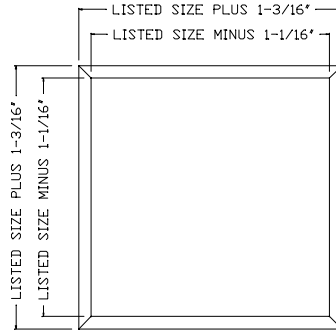
FEATURES

TBPF – Aluminum

STBPF – Steel

- Allows for installation of T-bar products in plaster ceilings

Width x Height
12x24
24x24



MODEL TBPF/STBPF

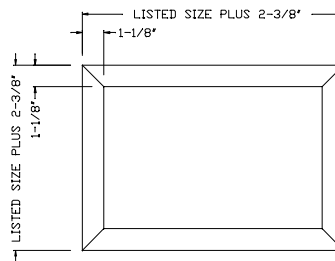
Plaster Frame – T-Bar

ALUMINUM/STEEL



FEATURES

- Aluminum construction
- Allows for installation of grilles, registers and diffusers into plaster walls or ceilings
- Designate register size for ordering



MODEL PF

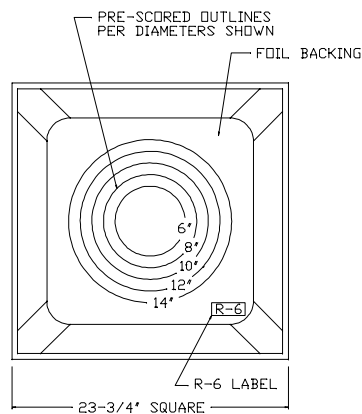
Plaster Frame – Ceiling/Sidewall

ALUMINUM



FEATURES

- R6 fiberglass insulated back panel
- Foil facing
- Pre-scored for round necks – 6" to 14"



MODEL FGB-R6

R-6 Molded Fiberglass Back

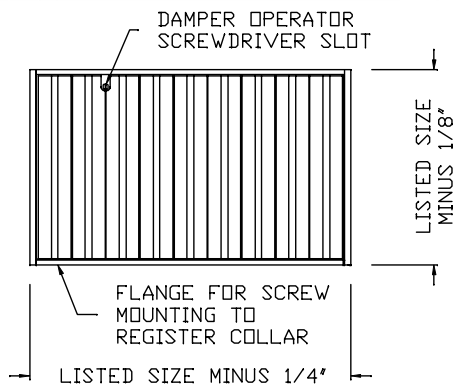
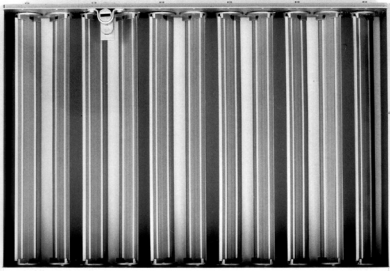
INSULATION



MODEL OBD

Opposed Blade Damper

STEEL



FEATURES

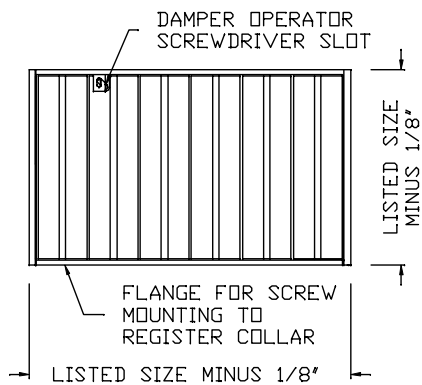
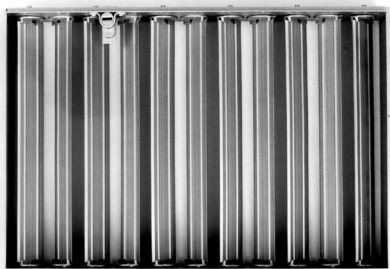
- Steel construction
- Opposed blade damper
- Tapered blades set in U-channel frame
- Screwdriver operated
- Mill finish

Height	Width												
	6"	8"	10"	12"	14"	16"	18"	20"	22"	24"	26"	28"	30"
4"	X	X	X	X	X	X	X	X	X	X	X	X	X
5"	X	X	X	X	X	X	X	X	X	X	X	X	X
6"	X	X	X	X	X	X	X	X	X	X	X	X	X
8"		X	X	X	X	X	X	X	X	X	X	X	X
10"			X	X	X	X	X	X	X	X	X	X	X
12"				X	X	X	X	X	X	X	X	X	X
14"					X	X	X	X	X	X	X	X	X
16"						X	X	X	X	X	X	X	X
18"							X	X	X	X	X	X	X
20"								X	X	X	X	X	X
22"									X	X	X	X	X
24"										X	X	X	X
26"											X	X	X
28"												X	X
30"													X

MODEL OBDA

Opposed Blade Damper

ALUMINUM



FEATURES

- Aluminum construction
- Opposed blade damper
- Double wall blades set in U-channel frame
- Blades set on 1-1/2" centers
- Snaps easily on selected USAIRE grilles
- Screwdriver operated
- Mill finish

Height	Width												
	6"	8"	10"	12"	14"	16"	18"	20"	22"	24"	26"	28"	30"
4"	X	X	X	X	X	X	X	X	X	X	X	X	X
5"	X	X	X	X	X	X	X	X	X	X	X	X	X
6"	X	X	X	X	X	X	X	X	X	X	X	X	X
8"		X	X	X	X	X	X	X	X	X	X	X	X
10"			X	X	X	X	X	X	X	X	X	X	X
12"				X	X	X	X	X	X	X	X	X	X
14"					X	X	X	X	X	X	X	X	X
16"						X	X	X	X	X	X	X	X
18"							X	X	X	X	X	X	X
20"								X	X	X	X	X	X
22"									X	X	X	X	X
24"										X	X	X	X
26"											X	X	X
28"												X	X
30"													X

FEATURES

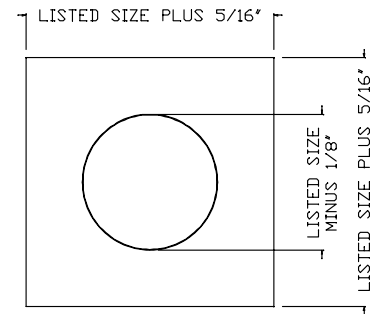
- Steel construction
- Converts square neck to round neck
- Box is 1/2"
- Round neck height is 1"

Square Neck Size	Round Duct Size												
	5"	6"	7"	8"	9"	10"	11"	12"	14"	15"	16"	18"	
6"x6"	X	X											
8"x8"	X	X	X	X									
9"x9"	X	X	X	X	X								
10"x10"	X	X	X	X	X	X							
12"x12"	X	X	X	X	X	X	X	X					
14"x14"	X	X	X	X	X	X	X	X	X				
15"x15"	X	X	X	X	X	X	X	X	X	X			
16"x16"	X	X	X	X	X	X	X	X	X	X	X		
18"x18"	X	X	X	X	X	X	X	X	X	X	X	X	

MODEL TR

Square to Round Transition, 1-1/8" Neck

STEEL



FEATURES

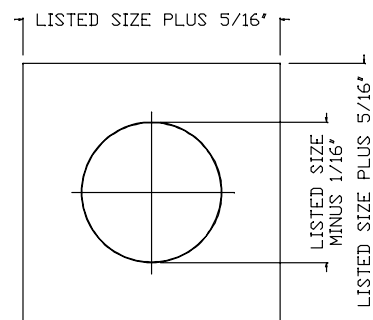
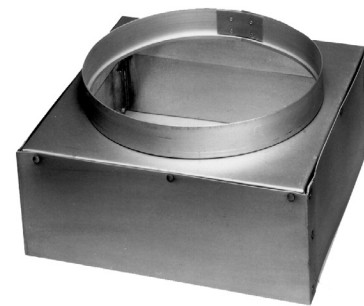
- Steel construction
- Converts square neck to round neck
- Box is 3" deep
- Round neck height is 1-7/8"

Square Neck Size	Round Duct Size												
	5"	6"	7"	8"	9"	10"	11"	12"	14"	15"	16"	18"	
6"x6"	X	X											
8"x8"	X	X	X	X									
9"x9"	X	X	X	X	X								
10"x10"	X	X	X	X	X	X							
12"x12"	X	X	X	X	X	X	X	X					
14"x14"	X	X	X	X	X	X	X	X	X				
15"x15"	X	X	X	X	X	X	X	X	X	X			
16"x16"	X	X	X	X	X	X	X	X	X	X	X		
18"x18"	X	X	X	X	X	X	X	X	X	X	X	X	

MODEL TRD

Square to Round Transition, 1-1/8" Neck Height, 2-3/4" Deep Box

STEEL



Model 101M & 102M 1 & 2 Way Stamped Face Grille

CFM	Outlet Size	8x4	10x6	12x6	14x6	12x8	14x8
50	Neck Velocity	225					
	Ps	.006					
	Throw	6					
100	Neck Velocity	450	240	200			
	Ps	.023	.006	.004			
	Throw	9	7	7			
150	Neck Velocity	675	360	300	257	225	
	Ps	.051	.015	.10	.007	.006	
	Throw	12	10	9	9	8	
200	Neck Velocity	900	480	400	343	257	
	Ps	.091	.026	.018	.013	.010	
	Throw	15	12	11	11	10	
250	Neck Velocity	600	500	429	375	321	
	Ps	.040	.128	.021	.016	.012	
	Throw	14	13	12	12	11	
300	Neck Velocity	720	600	514	450	386	
	Ps	.058	.040	.030	.023	.017	
	Throw	16	15	14	13	13	
350	Neck Velocity	840	700	600	525	450	
	Ps	.079	.055	.040	.031	.023	
	Throw	17	16	16	15	14	
400	Neck Velocity	800		686	600	514	
	Ps	.091		.067	.051	.038	
	Throw	20		19	18	17	
450	Neck Velocity	900		771	675	579	
	Ps	.112		.082	.063	.046	
	Throw	21		20	19	18	
500	Neck Velocity	857		750	643		
	Ps	.100		.076	.056		
	Throw	21		20	19		
550	Neck Velocity	825		707			
	Ps	.091		.067			
	Throw	22		20			
600	Neck Velocity	900		771			
	Ps	.107		.078			
	Throw	23		22			
650	Neck Velocity	836					
	Ps	.091					
	Throw	23					
700	Neck Velocity	900					
	Ps	.096					
	Throw	25					

Model 103M 3 Way Stamped Face Grille

CFM	Outlet Size	8x4	12x4	10x6	12x6	14x6	12x8
50	Neck Velocity	225					
	Ps	.006					
	Throw	6 4					
100	Neck Velocity	450	300	240	200		
	Ps	.023	.009	.006	.004		
	Throw	8 6	9 7	7 6	7 5		
150	Neck Velocity	675	450	360	300	257	225
	Ps	.051	.020	.015	.010	.007	.006
	Throw	12 9	11 8	10 7	9 7	9 7	8 6
200	Neck Velocity	900	600	480	400	343	300
	Ps	.091	.035	.026	.018	.013	.010
	Throw	15 11	13 10	12 9	11 8	11 8	10 8
250	Neck Velocity	750	600	500	429	375	
	Ps	.055	.040	.028	.021	.016	
	Throw	15 11	14 10	13 10	12 9	12 9	
300	Neck Velocity	900	720	600	514	450	
	Ps	.079	.058	.040	.030	.023	
	Throw	17 13	16 12	15 11	14 11	13 10	
350	Neck Velocity	840		700	600	525	
	Ps	.079		.055	.040	.031	
	Throw	17 13		16 12	16 12	15 11	
400	Neck Velocity	800		686	600		
	Ps	.091		.067	.051		
	Throw	20 15		19 14	18 13		
450	Neck Velocity	900		771	675		
	Ps	.112		.082	.063		
	Throw	21 16		20 15	19 14		
500	Neck Velocity	857		760			
	Ps	.100		.076			
	Throw	21 16		20 15			
550	Neck Velocity	825					
	Ps	.091					
	Throw	22 16					
600	Neck Velocity	900					
	Ps	.107					
	Throw	23 17					

Performance Notes

1. Neck Velocity – The neck velocity is in feet per minute.
2. Ps – Static pressure readings are in inches water gauge.
3. Throw – Throws indicated are based on total number of feet of projected air when a terminal velocity of 50 feet per minute is reached. Values reflect side louver throw and center louver throw respectively. Throw should extend at least 75% of the distance from the face of the grille to the wall opposite the outlet. Throws are based on a 9 foot ceiling height.

Model 104M 4 Way Stamped Face Grille

CFM	Outlet Size	6x6	8x8	10x10	12x12
50	Neck Velocity	200			
	Ps	.004			
	Throw	5 4			
100	Neck Velocity	400	225		
	Ps	.018	.066		
	Throw	9 7	7 5		
150	Neck Velocity	600	338	216	
	Ps	.040	.014	.004	
	Throw	9 7	9 7	8 6	
200	Neck Velocity	800	450	238	225
	Ps	.072	.025	.007	.004
	Throw	14 11	11 8	10 7	9 7
250	Neck Velocity	563		360	256
	Ps	.038		.012	.006
	Throw	13 10		11 9	10 8
300	Neck Velocity	675		432	300
	Ps	.055		.017	.008
	Throw	15 11		13 10	11 9
350	Neck Velocity	787		504	350
	Ps	.075		.023	.011
	Throw	16 12		14 11	13 10
400	Neck Velocity	900		576	400
	Ps	.125		.038	.018
	Throw	20 15		17 13	15 11
450	Neck Velocity	648		450	
	Ps	.047		.023	
	Throw	18 14		16 12	
500	Neck Velocity	720		500	
	Ps	.057		.027	
	Throw	20 15		17 13	
550	Neck Velocity	792		550	
	Ps	.067		.032	
	Throw	21 16		18 14	
600	Neck Velocity	864		600	
	Ps	.079		.038	
	Throw	22 16		19 15	
700	Neck Velocity	700			
	Ps	.044			
	Throw	20 15			

Model 1300 Stamped Face Baseboard Return Grille

CFM	Outlet Size	12x6	18x6	24x6	20x8	24x8	30x8	24x12	30x12
100	Face Velocity	200							
150	Face Velocity	300	200	150					
200	Face Velocity	400	267	200	180	150			
250	Face Velocity	500	333	250	225	188	150		
300	Face Velocity	600	400	300	270	225	180		
350	Face Velocity	467		350	315	263	210	150	
400	Face Velocity	533		400	360	300	240	175	
450	Face Velocity	600		450	405	338	270	200	160
500	Face Velocity	500		450	375	300	225	180	
550	Face Velocity	550		495	413	330	250	200	
600	Face Velocity	600		540	450	360	275	220	
650	Face Velocity	585		488	390	300	240		
700	Face Velocity	525		420	325	260			

Performance Notes

1. Face Velocity – The average face velocity is in feet per minute as measured 1" from face.
2. Stated performance are the most popular sizes; complete performance for all sizes is available upon request.

Model 1320 Stamped Face Toe-Space Grille

CFM	Outlet Size	2x10	2x12	2x14
25	Neck Velocity	120	100	
	Ps	.003	.002	
	Spread / Throw	2 2	1 1	
50	Neck Velocity	204	200	171
	Ps	.012	.008	.006
	Spread / Throw	5 4	5 4	4 3
75	Neck Velocity	360	300	257
	Ps	.026	.008	.013
	Spread / Throw	7 5	5 5	6 5
100	Neck Velocity	480	400	343
	Ps	.047	.032	.024
	Spread / Throw	8 7	8 6	7 6
125	Neck Velocity	600	500	429
	Ps	.073	.051	.037
	Spread / Throw	10 6	9 7	8 7
150	Neck Velocity	720	600	514
	Ps	.105	.073	.054
	Spread / Throw	11 9	10 8	10 8
200	Neck Velocity	800		686
	Ps	.130		.095
	Spread / Throw	12 10		12 9

Performance Notes

1. Ps – Static pressure readings are in inches water gauge.
2. Throw – Throws indicated are based on total number of feet projected air when a terminal velocity of 50 feet per minute is reached.
3. Spread – Horizontal spread is measured in feet.
4. Neck Velocity – The neck velocity is in feet per minute.

Model 201M

1 Way Curved Blade Stamped Face Grille

CFM	Outlet Size	8x4	10x4	12x4	8x6	10x6	12x6	14x6	12x8
50	Neck Velocity	225	180	150	150				
	Ps	.002	.001	.001	.001				
	Throw	13	12	11	11				
100	Neck Velocity	450	360	300	300	240	200	171	150
	Ps	.007	.003	.002	.003	.002	.001	.001	.001
	Throw	21	20	19	19	17	16	15	14
150	Neck Velocity	540	450	450	360	300	257	225	
	Ps	.008	.005	.006	.003	.002	.002	.001	
	Throw	26	24	24	23	21	20	19	
200	Neck Velocity		600	600	480	400	343	300	
	Ps		.010	.010	.006	.003	.003	.002	
	Throw		30	30	28	26	25	23	
250	Neck Velocity				600	500	429	375	
	Ps				.010	.005	.005	.003	
	Throw				32	30	29	27	
300	Neck Velocity					600	514	450	
	Ps					.008	.007	.004	
	Throw					34	32	31	
350	Neck Velocity						600	525	
	Ps						.010	.006	
	Throw						36	34	
400	Neck Velocity							600	
	Ps							.010	
	Throw								41

Model 203M

3 Way Curved Blade Stamped Face Grille

CFM	Outlet Size	10x6	8x8	12x6	10x8	14x6	12x8	14x8
100	Neck Velocity	240	225	200	180	171	150	
	Ps	.002	.001	.001	.001	.001	.001	
	Throw	12 10	12 10	11 10	11 9	11 9	10 9	
150	Neck Velocity	360	338	300	270	257	225	193
	Ps	.004	.003	.002	.002	.002	.001	.001
	Throw	16 14	15 14	15 13	14 13	14 12	13 12	13 11
200	Neck Velocity	480	450	400	360	343	300	257
	Ps	.007	.005	.004	.004	.003	.002	.001
	Throw	19 17	19 16	18 16	17 15	17 15	16 14	15 14
250	Neck Velocity		563	500	450	429	375	321
	Ps		.008	.007	.006	.005	.003	.002
	Throw		22 19	21 18	20 18	20 17	19 17	18 16
300	Neck Velocity			600	540	514	450	386
	Ps			.010	.008	.007	.004	.003
	Throw			24 21	23 20	22 20	21 19	20 18
350	Neck Velocity					600	525	450
	Ps					.010	.006	.004
	Throw					25 22	24 21	23 20
400	Neck Velocity						600	514
	Ps						.010	.007
	Throw						28 25	27 24
450	Neck Velocity							579
	Ps							.015
	Throw							35 30

Model 202M

2 Way Curved Blade Stamped Face Grille

CFM	Outlet Size	10x6	12x6	12x8
100	Neck Velocity	240	200	150
	Ps	.002	.001	.001
	Throw	14	13	12
150	Neck Velocity	360	300	225
	Ps	.004	.002	.001
	Throw	19	18	16
200	Neck Velocity	480	400	300
	Ps	.007	.004	.002
	Throw	23	22	20
250	Neck Velocity	600	500	375
	Ps	.012	.007	.004
	Throw	27	25	23
300	Neck Velocity		600	450
	Ps		.010	.005
	Throw		28	26
350	Neck Velocity			600
	Ps			.007
	Throw			29
400	Neck Velocity			600
	Ps			.012
	Throw			34

Model 204M

4 Way Curved Blade Stamped Face Grille

CFM	Outlet Size	6x6	8x8
50	Neck Velocity	200	
	Ps	.001	
	Throw	8 7	
100	Neck Velocity	400	225
	Ps	.005	.001
	Throw	14 12	12 10
150	Neck Velocity	600	338
	Ps	.012	.003
	Throw	19 16	15 14
200	Neck Velocity		450
	Ps		.005
	Throw		19 16
250	Neck Velocity		563
	Ps		.008
	Throw		11 19

Model 1340

Stamped Face Baseboard Diffuser

CFM	18" Width	
50	Face Velocity	246
	Ps	.005 2 1/4" x 12" Boot
	Ps	.004 2 1/4" x 14" Boot
	Spread / Throw	4 / 5
75	Face Velocity	389
	Ps	.009 2 1/4" x 12" Boot
	Ps	.006 2 1/4" x 14" Boot
	Spread / Throw	5 / 6
100	Face Velocity	490
	Ps	.026 2 1/4" x 12" Boot
	Ps	.018 2 1/4" x 14" Boot
	Spread / Throw	10 / 10
125	Face Velocity	612
	Ps	.036 2 1/4" x 12" Boot
	Ps	.030 2 1/4" x 14" Boot
	Spread / Throw	11 / 11
150	Face Velocity	735
	Ps	.050 2 1/4" x 12" Boot
	Ps	.034 2 1/4" x 14" Boot
	Spread / Throw	12 / 13
175	Face Velocity	858
	Ps	.064 2 1/4" x 12" Boot
	Ps	.043 2 1/4" x 14" Boot
	Spread / Throw	14 / 15
200	Face Velocity	980
	Ps	.098 2 1/4" x 12" Boot
	Ps	.066 2 1/4" x 14" Boot
	Spread / Throw	16 / 17

Performance Notes

1. Neck Velocity – The neck velocity is in feet per minute.
2. Face Velocity – The discharge velocity is in feet per minute.
3. Ps – Static pressure readings are in inches water gauge.
4. Throw – Throws indicated are based on total number of feet of projected air when a terminal velocity of 50 feet per minute is reached. Values reflect side louver throw and center louver throw respectively. Throw should extend at least 75% of the distance from the face of the grille to the wall opposite the outlet. Throws are based on a 9 foot ceiling height.
5. Spread - Horizontal spread is measured in feet per minute.



Model 1400, 1410F, 1420F, 1410FTB, 1410FTBI
Stamped Face Return / Return Air Filter Grille

Size	Area		Inlet Velocity		200	300	400	500	600	700	800	900	1000
	Ak	PS	.004	.008	.014	.022	.032	.044	.057	.072	.089		
10x10	.69	CFM	139	208	278	347	417	486	556	625	694		
	.69	NC	16	20	26	31	37	44	50	57	64		
12x8	.67	CFM	133	200	267	333	400	467	533	600	667		
	.65	NC	15	20	25	31	37	43	50	57	64		
12x12	1.00	CFM	200	300	400	500	600	700	800	900	1000		
	.98	NC	15	20	25	31	37	43	50	57	64		
14x6	.58	CFM	117	175	233	292	350	408	467	525	583		
	.57	NC	<15	20	25	31	37	43	49	56	63		
14x8	.78	CFM	156	233	311	389	467	544	622	700	778		
	.76	NC	16	21	26	32	38	44	51	58	65		
14x14	1.36	CFM	272	408	544	681	817	953	1089	1225	1361		
	1.33	NC	19	23	29	34	40	47	53	60	>65		
16x16	1.78	CFM	356	533	711	889	1067	1244	1422	1600	1778		
	1.74	NC	20	24	30	35	41	48	54	61	>65		

Size	Area		Inlet Velocity		200	300	400	500	600	700	800	900	1000
	Ak	PS	.005	.011	.020	.031	.045	.061	.080	.101	.125		
24x24	4.00	CFM	800	1200	1600	2000	2400	2800	3200	3600	4000		
	3.92	NC	23	28	33	39	45	51	58	65	>65		
25x12	2.08	CFM	417	625	833	1042	1250	1458	1667	1875	2083		
	2.04	NC	20	25	30	36	42	48	55	62	>65		
25x14	2.43	CFM	486	729	972	1215	1458	1701	1944	2188	2431		
	2.38	NC	21	26	31	37	43	49	56	62	>65		
25x16	2.78	CFM	556	833	1111	1389	1667	1944	2222	2500	2778		
	2.72	NC	22	26	32	37	43	50	56	63	>65		
25x18	3.13	CFM	625	938	1250	1563	1875	2188	2500	2813	3125		
	3.06	NC	22	27	32	38	44	50	57	64	>65		
25x20	3.47	CFM	694	1042	1389	1736	2083	2431	2778	3125	3472		
	3.40	NC	23	27	33	38	44	51	57	64	>65		
25x25	4.34	CFM	868	1302	1736	2170	2604	3038	3472	3906	4340		
	4.25	NC	24	28	34	39	45	52	58	>65	>65		

Model 1500, 1510D, 1510DX, 1510X, 1520M Steel Stamped Face Floor Grilles / Registers

CFM	Outlet Size	2x10	2x12	2x14	4x8	4x10	4x12	4x14	6x10	6x12	6x14	
25	Face Velocity	160										
	Ps	.007										
	Spread / Throw	3 2										
50	Face Velocity	320	267	229	225	180	150					
	Ps	.029	.020	.015	.015	.009	.006					
	Spread / Throw	6 4	5 4	5 4	5 4	4 3	4 3					
75	Face Velocity	480	400	343	338	270	225	193	180	150		
	Ps	.066	.046	.034	.034	.021	.014	.011	.009	.006		
	Spread / Throw	7 6	7 5	7 5	7 5	6 5	6 4	5 4	5 4	5 4		
100	Face Velocity	640	533	457	450	360	300	257	240	200	171	
	Ps	.117	.081	.060	.060	.037	.026	.019	.011	.011	.008	
	Spread / Throw	9 7	8 6	8 6	8 6	7 6	7 5	7 5	6 5	6 5	6 4	
125	Face Velocity	800	667	571	563	450	375	321	300	250	214	
	Ps	.183	.127	.093	.093	.058	.040	.030	.026	.018	.013	
	Spread / Throw	11 6	10 7	9 7	9 7	9 6	8 6	8 6	8 6	7 5	7 5	
150	Face Velocity	800										
	Ps	.183	.135	.135	.083	.058	.043	.037	.026	.019		
	Spread / Throw	11 6	11 6	11 8	10 7	9 7	9 7	9 6	8 6	8 6		
175	Face Velocity	800										
	Ps	.183	.183	.114	.079	.058	.050	.035	.026			
	Spread / Throw	12 9	12 9	11 8	10 8	10 7	9 7	9 7	8 6			
200	Face Velocity	900										
	Ps	.239	.188	.130	.096	.083	.058	.043				
	Spread / Throw	14 11	13 10	12 9	11 7	11 8	11 8	10 6				
225	Face Velocity	810										
	Ps	.232	.161	.118	.103	.072	.053					
	Spread / Throw	14 10	13 10	12 9	12 9	11 8	11 8					
250	Face Velocity	900										
	Ps	.272	.195	.143	.125	.067	.064					
	Spread / Throw	16 12	14 10	13 10	13 10	13 9	11 9					
275	Face Velocity	825										
	Ps	.232	.170	.148	.103	.076						
	Spread / Throw	15 11	14 10	14 10	13 10	12 9						
300	Face Velocity	900										
	Ps	.272	.200	.174	.121	.089						
	Spread / Throw	16 12	15 11	14 11	13 11	13 10						
325	Face Velocity	836										
	Ps	.232	.202	.140	.103							
	Spread / Throw	15 12	15 11	14 11	13 10							
350	Face Velocity	900										
	Ps	.267	.232	.161	.118							
	Spread / Throw	16 13	16 12	15 12	14 10							

Performance Notes:

1. Neck Velocity – The neck velocity is in feet per minute.
2. Face Velocity – The discharge velocity is in feet per minute.
3. Ps – Static pressure readings are in inches water gauge.
4. Throw – Throws indicated are based on total number of feet of projected air when a terminal velocity of 50 feet per minute is reached. Values reflect side louver throw and center louver throw respectively. Throw should extend at least 75% of the distance from the face of the grille to the wall opposite the outlet. Throws are based on a 9 foot ceiling height.
5. Spread – Horizontal spread is measured in feet per minute.

Model 2000F, 2000FD (0* Deflection) Extruded Aluminum Bar Grille

Listed Width (inches) Ak Area per Foot	Outlet Velocity Static Pressure (Ps) NC	500	700	900	1000	1100	1200	1300
		.016	.031	.051	.062	.076	.090	.105
		<15	15	20	23	25	29	31
2 0.086	Flow CFM / LFT	43	60	77	85	94	102	111
	Throw, Sill or Floor	5 8	8 12	10 14	11 16	13 18	13 19	14 20
	Throw Side Wall	7 10	10 15	13 18	14 20	15 22	17 24	17 25
4 0.176	Flow CFM / LFT	110	154	198	220	242	264	286
	Throw, Sill or Floor	8 11	13 18	14 20	16 23	18 26	19 27	20 29
	Throw Side Wall	10 14	15 22	17 25	20 29	22 32	24 34	25 26
6 0.265	Flow CFM / LFT	133	186	239	265	292	318	345
	Throw, Sill or Floor	8 12	13 18	15 22	17 25	18 26	20 28	21 30
	Throw Side Wall	10 15	15 22	19 27	22 31	23 33	24 35	27 38

Model 1530, 1530M Steel Bar Floor Grille

Outlet Size	6x6	4x8	4x10	4x12	8x8	6x12	6x14	4x24	8x12	
Area	0.250	0.260	0.278	0.333	0.444	0.500	0.583	0.667	0.667	
CFM	Face Velocity									
50	200									
75	300	289	270	225						
100	400	385	360	300	225	200				
125	500	481	450	375	282	250	215			
150	600	577	540	450	338	300	258	225	225	
200	769		720	600	450	400	343	300	300	
250					750	563	500	429	375	375
300					675	600	515	450	450	
350					788	700	600	525	525	
400							686	600	600	
450							772	675	675	

Outlet Size	10x10	8x14	10x14	6x24	12x12	6x30	8x24	12x18	12x30	
Area	0.694	0.778	0.972	1.000	1.000	1.250	1.333	1.500	2.500	
CFM	Face Velocity									
150	216									
200	288	257	206	200	200					
250	360	321	257	250	250	200				
300	432	386	309	300	300	240	225	200		
400	576	514	411	400	400	320	300	267		
500	720	643	514	500	500	400	375	333	200	
600	771		617	600	600	480	450	400	240	
700					700	560	525	467	280	
800							640	600	533	320
900							720	675	600	360
1000									667	400

Outlet Size	18x18	20x20	18x24	18x30	24x24	18x36	20x36	24x30	24x36	
Area	2.250	2.778	3.000	3.750	4.000	4.500	5.000	5.000	6.000	
CFM	Face Velocity									
500	222									
600	267	216	200							
700	311	252	233							
800	356	288	267	213	200					
900	400	324	300	240	225	200				
1000	444	360	333	267	250	222	200	200		
1500	667	540	500	400	375	333	300	300	250	
2000	720		667	533	500	444	400	400	333	
2500					667	625	556	500	500	417
3000							667	600	600	500
4000									667	400

Performance Notes:

1. All units have been tested in accordance with ANSI / ASHRAE 70-2006. Data in table is derived from such testing.
2. Ps – Static pressure readings are in inches water gauge.
3. NC – Calculated noise criteria using 10 dB per octave room attenuation (dimensionless).
4. Ak – Area factors per foot.

Model 4000SVM, (HV) 4002, (HV) 4002D, (HV) 4002M, (HV) 4004, (HV) 4004D, (HV) 4002S, (HV) 4004S, 4004P, 4004SP

Single and Double Deflection Sidewall Supplies

Size	Area		Inlet Velocity		200	300	400	500	600	700	800	900	1000
	Ak	PS	.010	.011	.020	.031	.044	.060	.078	.099	.122		
	CFM	NC	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15
6x6	.25	CFM	50	75	125	125	150	175	200	225	250		
	.20	NC	<15	<15	<15	<15	<15	<15	16	19	23		
8x8	.44	CFM	89	133	178	222	267	311	356	400	444		
	.35	NC	<15	<15	<15	<15	<15	16	19	22	25		
10x6	.42	CFM	83	125	167	208	250	292	333	375	417		
	.33	NC	<15	<15	<15	<15	<15	16	18	22	25		
10x8	.56	CFM	111	167	222	278	333	389	444	500	556		
	.43	NC	<15	<15	<15	<15	<15	17	20	23	26		
10x10	.69	CFM	139	208	278	347	417	486	556	625	694		
	.54	NC	<15	<15	<15	<15	<15	16	18	21	24		
12x6	.50	CFM	100	150	200	250	300	350	400	450	500		
	.39	NC	<15	<15	<15	<15	<15	16	19	22	26		
12x8	.67	CFM	133	200	267	333	400	467	533	600	667		
	.52	NC	<15	<15	<15	<15	15	18	20	24	27		
12x12	1.00	CFM	200	300	400	500	600	700	800	900	1000		
	.78	NC	<15	<15	<15	15	17	19	22	25	29		
14x6	.58	CFM	117	175	233	292	350	408	467	525	583		
	.46	NC	<15	<15	<15	<15	<15	<15	17	20	24		
14x8	.78	CFM	156	233	311	389	467	544	622	700	778		
	.61	NC	<15	<15	<15	<15	16	18	21	24	28		
16x6	.67	CFM	133	200	267	333	400	467	533	600	667		
	.52	NC	<15	<15	<15	<15	<15	<15	17	21	24		
16x8	.89	CFM	178	267	356	444	533	622	711	800	889		
	.69	NC	<15	<15	<15	<15	<15	17	19	22	25		
18x6	.75	CFM	150	225	300	375	450	525	600	675	750		
	.59	NC	<15	<15	<15	<15	<15	15	18	21	25		
18x8	1.00	CFM	200	300	400	500	600	700	800	900	1000		
	.78	NC	<15	<15	<15	15	17	19	22	25	29		
20x6	.83	CFM	167	250	333	417	500	583	667	750	833		
	.65	NC	<15	<15	<15	<15	<15	16	18	22	25		
20x8	1.11	CFM	222	333	444	556	667	778	889	1000	1111		
	.87	NC	<15	<15	<15	<15	<15	17	20	23	26		
20x10	1.39	CFM	200	300	400	500	600	700	800	900	1000		
	1.08	NC	<15	<15	<15	15	17	19	22	25	29		
20x12	1.67	CFM	267	400	533	667	800	933	1067	1200	1333		
	1.30	NC	<15	<15	<15	<15	15	18	20	24	27		
20x16	2.22	CFM	444	667	889	1111	1333	1556	1778	2000	2222		
	1.73	NC	<15	<15	<15	16	18	20	23	26	29		
20x18	2.50	CFM	500	750	1000	1250	1500	1750	2000	2250	2500		
	1.95	NC	<15	<15	<15	16	18	20	23	26	30		
20x20	2.78	CFM	556	833	1111	1389	1667	1944	2222	2500	2778		
	2.17	NC	<15	<15	<15	17	19	21	24	27	30		
22x10	1.53	CFM	306	458	611	764	917	1069	1222	1375	1528		
	1.19	NC	<15	<15	<15	<15	16	18	21	24	28		
22x22	3.36	CFM	672	1008	1344	1681	2017	2353	2689	3025	3361		
	2.62	NC	<15	<15	16	17	19	22	25	28	31		
		Throw	12	18	24	30	36	42	47	53	59		

Size	Area		Inlet Velocity		200	300	400	500	600	700	800	900	1000
	Ak	PS	.010	.011	.020	.031	.044	.060	.078	.099	.122		
	CFM	NC	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15
24x6	1.00	CFM	200	300	400	500	600	700	800	900	1000		
	.78	NC	<15	<15	<15	<15	<15	16	19	22	26		
24x8	1.33	CFM	267	400	533	667	800	933	1067	1200	1333		
	1.04	NC	<15	<15	<15	<15	15	18	20	24	27		
24x10	1.67	CFM	333	500	667	833	1000	1167	1333	1500	1667		
	1.30	NC	<15	<15	<15	<15	16	19	21	25	28		
24x12	2.00	CFM	400	600	800	1000	1200	1400	1600	1800	2000		
	1.56	NC	<15	<15	<15	15	17	20	22	25	29		
24x16	2.67	CFM	533	800	1067	1333	1600	1867	2133	2400	2667		
	2.08	NC	<15	<15	<15	16	18	21	24	27	30		
24x18	3.00	CFM	600	900	1200	1500	1800	2100	2400	2700	3000		
	2.34	NC	<15	<15	15	17	19	21	24	27	31		
24x24	2.00	CFM	800	1200	1600	2000	2400	2800	3200	3600	4000		
	3.12	NC	<15	15	16	18	20	23	25	28	32		
26x12	2.17	CFM	433	650	867	1083	1300	1517	1733	1950	2167		
	1.69	NC	<15	<15	<15	15	17	20	23	26	29		
26x26	4.69	CFM	939	1408	1878	2347	2817	3286	3756	4225	4694		
	3.66	NC	<15	16	17	19	21	23	26	29	33		
28x12	2.33	CFM	467	700	933	1167	1400	1633	1867	2100	2333		
	1.82	NC	<15	<15	<15	16	18	20	23	26	30		
28x28	5.44	CFM	1089	1633	2178	2722	3267	3811	4356	4900	5444		
	4.25	NC	16	17	18	19	21	24	27	30	33		
30x6	1.25	CFM	250	375	500	625	750	875	1000	1125	1250		
	.98	NC	<15	<15	<15	<15	15	17	20	23	27		
30x8	1.67	CFM	333	500	667	833	1000	1167	1333	1500	1667		
	1.30	NC	<15	<15	<15	<15	15	18	20	24	27		
30x10	2.08	CFM	417	625	833	1042	1250	1458	1667	1875	2083		
	1.63	NC	<15	<15	<15	15	17	20	22	26	29		
30x12	2.50	CFM	500	750	1000	1250	1500	1750	2000	2250	2500		
	1.95	NC	<15	<15	<15	16	18	20	23	26	30		
36x8	2.00	CFM	400	600	800	1000	1200	1400	1600	1800	2000		
	1.56	NC	<15	<15	<15	15	17	20	22	25	29		
36x12	3.00	CFM	600	900	1200	1500	1800	2100	2400	2700	3000		
	2.34	NC	<15	<15	15	17	19	21	24	27	31		
36x24	6.00	CFM	1200	1800	2400	3000	3600	4200	4800	5400	6000		
	4.68	NC	16	17	18	20	22	24	27	30	34		
42x24	7.00	CFM	1400	2100	2800	3500	4200	4900	5600	6300	7000		
	5.46	NC	17	18	19	21	23	25	28	31	34		
48x12	4.00	CFM	800	1200	1600	2000	2400	2800	3200	3600	4000		
	3.12	NC	<15	15	16	18	20	23	25	28	32		
48x24	8.00	CFM	1600	2400	3200	4000	4800	5600	6400	7200	8000		
	6.24	NC	17	18	19	21	23	26	28	31	35		
48x36	12.00	CFM	2400	3600	4800	6000	7200	8400	9600	10800	12000		
	9.36	NC	19	20	21	23	25	27	30	33	37		
48x48	16.00	CFM	3200	4800	6400	8000	9600	11200	12800	14400	16000		
	12.48	NC	20	21	22	24	26	29	31	34	38		
		Throw	12	18	24	30	36	42	47	53	59		

Performance Notes:

1. All units have been tested in accordance with ANSI / ASHRAE 70-2006. Data in table is derived from such testing.
2. Ps – Static pressure required to obtain listed cfm, units of inches water gauge (in. wg.).
3. NC – Calculated noise criteria using 10 dB per octave room attenuation (dimensionless).
4. Throw – Non-isothermal throw, in feet, for a terminal velocity of 50 fpm.
5. Inlet Velocity = fpm (feet per minute).

Model 3100A, 3100SA, 3100, 3100S Commercial Round Ceiling Diffuser

Neck Size	Neck Area Sq FT	Inlet Velocity PS	200	300	400	500	600	700	800	900	1000	1100
			.006	.014	.025	.039	.056	.077	.100	.127	.156	.189
6"	.165	CFM	39	59	79	98	118	137	157	177	196	216
		NC	<15	<15	16	18	21	23	26	28	31	33
8"	.307	CFM	70	105	140	175	209	244	279	314	349	384
		NC	<15	16	18	21	23	26	28	31	33	36
10"	.493	CFM	109	164	218	273	327	382	436	491	545	600
		NC	16	18	20	23	25	28	30	33	35	38
12"	.722	CFM	157	236	314	393	471	550	628	707	785	864
		NC	17	20	22	24	27	29	32	34	37	39
14"	.995	CFM	214	321	428	535	641	748	855	962	1069	1176
		NC	18	21	23	26	28	31	33	36	38	40
16"	1.312	CFM	279	419	559	698	838	977	1117	1257	1396	1536
		NC	20	22	25	27	29	32	34	37	39	42
18"	1.673	CFM	353	530	707	884	1060	1237	1414	1590	1767	1944
		NC	21	23	26	28	30	33	35	38	40	43
20"	1.673	CFM	436	654	873	1091	1309	1527	1745	1963	2182	2400
		NC	22	24	26	29	31	34	36	39	41	44
22"	1.673	CFM	528	792	1056	1320	1584	1848	2112	2376	2640	2904
		NC	22	25	27	30	32	35	37	39	42	44
24"	3.016	CFM	628	942	1257	1571	1885	2199	2513	2827	3142	3456
		NC	23	26	28	30	33	35	38	40	43	45
Throw			5	8	10	13	15	18	20	23	25	28

Damper Table	
% Damper Open	Add to Listed NC
100 %	0
82 %	4
70 %	8
50%	16

Performance Notes:

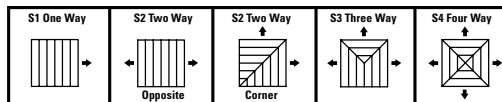
1. Tabulated radial throw in feet is based on a 9' ceiling height, with supply air 20°F cooler than room temperature, MAX Horizontal Throw @ Vt = 50 fpm.
2. Vertical down projection air pattern with cooling supply air temperature 20° below room temperature, and diffuser inner cones in up position: multiply the tabulated radial throw values by a factor of 0.80 to obtain vertical down projection distance at MIN and MAX (Vt) terminal velocities.
3. Vertical down projection air pattern with heating supply air temperature 20° above room temperature, and diffuser inner cones in up position: multiply the tabulated radial throw values by a factor of 0.60 to obtain vertical down projection distance at MIN and MAX (Vt) terminal velocities.
4. PS – are in inches of water.
5. 3100 Round Diffusers are tested in accordance with ASHRAE 70-2006. Sound data are calculated in accordance with International Standard ISO 3741 comparison method. The NC values are based on a room absorption of 10 dB for sound power level (Lw) RE: 10E-12 watts. (<) symbol indicates NC less than number given. The NC data are for single diffusers: for results of throttling a volume damper, see Damper Table.
6. All data are applicable for exposed duct mounting or ceiling installation.
7. Inlet Velocity = fpm (feet per minute).

Model 5200 Square Ceiling Diffuser

CFM	Size	6x6	8x8	10x10	12x12	14x14	16x16	18x18	20x20	22x22	24x24
100	Neck Velocity	400	225	114	100						
	PS	.004	.001	.001	.001						
	Throw	20 17 14 12	17 14 12 10	14 12 10 9	12 10 8 7						
200	Neck Velocity	800	450	288	200	147					
	PS	.014	.004	.002	.001	.001					
	Throw	33 27 23 20	27 22 19 16	23 19 16 14	21 17 14 12	18 15 13 11					
300	Neck Velocity		675	432	300	220					
	PS		.008	.004	.002	.001					
	Throw		35 30 25 22	35 30 25 22	27 22 19 15	24 20 17 15					
400	Neck Velocity		900	576	400	294					
	PS		.019	.008	.004	.002					
	Throw		47 39 32 29	40 34 28 24	35 30 25 22	32 27 22 19					
600	Neck Velocity			864	600	441	216				
	PS			.017	.008	.003	.001				
	Throw			52 43 36 32	43 36 30 26	41 34 28 25	30 25 21 19				
800	Neck Velocity				800	588	450	356	288	238	200
	PS				.018	.008	.005	.003	.002	.001	.001
	Throw				57 48 40 35	51 43 36 31	47 39 32 29	43 37 30 27	40 34 28 24	35 29 24 21	33 27 23 20
1000	Neck Velocity					735	563	444	360	298	250
	PS					.014	.009	.006	.003	.002	.001
	Throw					63 52 43 38	57 48 40 35	53 45 37 33	49 41 34 30	40 34 28 25	38 32 26 23

Performance Notes:

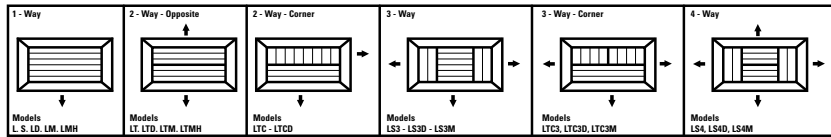
1. All data are tested in accordance with ANSI / ASHRAE 70-2006.
2. PS – Static Pressure.
3. Throw – Throws indicated are based on total number of feet of projected air when a terminal velocity of 50 fpm is reached. Numbers reported in chart are, from left to right, for 1, 2, 3 and 4-way throw patterns.
4. Inlet Velocity = fpm (feet per minute).



Model L, LD, LM, LMH, LT, LTD, LTM, LTMH, LTC, LTCD, LTCM, LS3, LS3D, LS3M, LTC3, LTC3D, LTC3M, LS4, LS4D, LS4M

Curve Blade (1 Way, 2 Way Opposite, 2 Way Corner, 3 Way, 3 Way Corner, 4 Way FLOW)

Size Area Ak	Inlet Velocity Ps	100	200	300	400	500	600	700	800	900	1000
		.003	.011	.026	.045	.075	.108	.145	.185	.236	.290
6x4	CFM	17	34	51	68	85	102	119	136	153	170
	Throw	10-9-7-6	11-9-8-7	12-9-8-8	16-13-11-10	18-14-13-11	19-15-13-12	23-18-16-15	26-20-18-17	34-27-24-22	37-29-26-24
	NC	<15	<15	<15	15	20	24	28	32	35	24
6x6	CFM	25	50	75	100	125	150	175	200	225	250
	Throw	10-8-7-6	12-9-8-7	14-11-10-9	18-14-13-11	22-17-16-14	24-19-17-15	26-20-18-17	34-27-24-20	38-30-27-23	42-33-30-25
	NC	<15	<15	<15	16	21	26	32	33	37	41
8x4	CFM	22	44	66	88	110	132	154	176	198	220
	Throw	11-9-8-7	12-9-8-7	13-10-9-8	17-13-12-10	21-17-15-13	22-17-16-13	25-20-18-15	32-25-23-19	36-28-25-22	40-31-28-24
	NC	<15	<15	<15	15	21	26	29	33	35	39
8x6	CFM	33	66	99	132	165	198	231	264	297	330
	Throw	6-5-4-4	8-6-6-5	11-9-8-7	15-12-11-9	20-16-14-12	24-19-17-14	32-25-23-19	37-29-26-22	41-32-29-25	45-35-32-27
	NC	<15	<15	15	17	23	28	32	35	38	41
8x8	CFM	44	88	132	176	220	264	308	352	396	440
	Throw	7-6-5-4	9-7-6-5	12-9-8-7	17-13-12-10	21-21-19-18	26-20-18-16	35-28-25-21	40-31-28-24	44-35-31-26	49-39-35-29
	NC	<15	<15	15	18	24	29	33	37	38	41
10x6	CFM	42	84	126	168	210	252	294	336	378	420
	Throw	7-6-5-4	9-7-6-5	12-9-8-7	17-13-12-10	21-21-19-18	26-20-18-16	35-28-25-21	40-31-28-24	44-35-31-26	49-39-35-29
	NC	<15	<15	15	18	24	29	33	37	38	41
10x8	CFM	56	112	168	224	280	336	392	448	504	560
	Throw	9-7-6-5	11-9-8-7	17-13-12-10	22-17-16-13	23-18-16-14	32-25-23-19	37-29-26-22	42-33-30-25	47-37-33-28	53-42-37-32
	NC	<15	<15	16	19	26	30	34	38	41	44
10x10	CFM	69	138	207	276	345	414	483	552	621	690
	Throw	6-5-4-4	12-9-8-7	18-14-13-11	20-16-14-12	30-24-21-18	35-28-25-21	41-34-31-24	46-38-34-28	51-40-36-31	57-45-40-34
	NC	<15	<15	15	20	26	31	36	39	42	45
12x6	CFM	50	100	150	200	250	300	350	400	450	500
	Throw	8-6-6-5	9-7-6-5	12-9-8-7	18-14-13-11	22-17-16-13	31-24-22-19	36-28-25-22	41-32-2-25	46-36-33-28	51-40-36-31
	NC	<15	<15	15	18	22	26	31	36	41	46
12x8	CFM	67	134	201	268	335	402	469	536	603	670
	Throw	6-5-4-4	12-9-8-7	18-14-13-11	20-16-14-12	30-24-21-18	35-28-25-21	41-34-31-24	46-38-34-28	51-40-36-31	57-45-40-34
	NC	<15	<15	15	20	26	31	36	39	42	45
12x12	CFM	100	200	300	400	500	600	700	800	900	1000
	Throw	7-6-5-4	14-11-10-8	20-16-14-12	22-17-16-13	32-25-23-19	39-31-28-23	45-35-32-27	50-39-35-30	56-44-40-34	63-50-45-38
	NC	<15	<15	15	22	28	33	37	40	43	46
14x6	CFM	58	116	174	232	290	348	406	464	522	580
	Throw	9-7-6-5	11-9-8-7	17-13-12-10	22-17-16-13	23-18-16-14	32-25-23-19	37-29-26-22	42-33-30-25	47-37-33-28	53-42-37-32
	NC	<15	<15	16	19	26	30	34	38	41	44
14x10	CFM	97	194	291	388	485	582	679	776	873	970
	Throw	7-6-5-4	13-10-9-8	20-16-14-12	22-17-16-13	32-25-23-19	38-30-27-23	44-35-31-26	49-39-35-29	55-43-39-33	62-49-44-37
	NC	<15	<15	15	22	28	33	37	40	43	46
14x14	CFM	136	272	408	544	680	816	952	1088	1224	1360
	Throw	8-6-6-5	11-9-8-7	18-14-13-11	25-20-18-15	35-28-25-21	42-33-30-25	48-38-34-29	55-43-39-33	62-49-44-37	69-54-49-41
	NC	<15	<15	16	24	29	34	40	43	46	49
16x6	CFM	67	134	201	268	335	402	469	536	603	670
	Throw	6-5-4-4	12-9-8-7	18-14-13-11	20-16-14-12	30-24-21-18	35-28-25-21	41-34-31-24	46-38-34-28	51-40-36-31	57-45-40-34
	NC	<15	<15	15	20	26	31	36	39	42	45
16x8	CFM	89	178	267	356	445	534	623	712	801	890
	Throw	7-6-5-4	13-10-9-8	20-16-14-12	22-17-16-13	32-25-23-19	38-30-27-23	44-35-31-26	49-39-35-29	55-43-39-33	62-49-44-37
	NC	<15	<15	15	22	28	33	37	40	43	46
20x10	CFM	139	278	417	556	695	834	973	1112	1251	1390
	Throw	8-6-6-5	11-9-8-7	18-14-13-11	25-20-18-15	35-28-25-21	42-33-30-25	48-38-34-29	55-43-39-33	62-49-44-37	69-54-49-41
	NC	<15	<15	16	24	29	34	40	43	46	49
22x10	CFM	153	306	459	612	765	918	1071	1224	1377	1530
	Throw	8-6-6-5	11-9-8-7	19-15-13-11	25-20-18-15	36-28-25-22	43-34-30-26	50-39-35-30	56-44-40-34	63-50-45-38	70-55-50-42
	NC	<15	<15	17	24	30	35	39	42	45	48



Performance Notes:

- All units have been tested in accordance with ANSI / ASHRAE 70-2006. Data in table is derived from such testing.
- Ps – Static pressure required to obtain listed cfm, units of inches water gauge (in. wg.).
- NC – Calculated noise criteria using 10 dB per octave room attenuation (dimensionless).
- Throw – Non-isothermal throw, in feet, for a terminal velocity of 50 fpm. Example: 25-20-18-15 (1 Way - 2 Way - 3 Way - 4 Way).
- Inlet Velocity = fpm (feet per minute).

Model V, VD, VM, VH, VHD

Aluminum Roll Formed Single Deflection
Aluminum Roll Formed Double Deflection

CFM	Outlet Size	8x4	10x6	12x6	14x6	12x8	14x8
50	Neck Velocity	225					
	Ps	.006					
	Throw	11 18					
100	Neck Velocity	450	240	200			
	Ps	.025	.007	.005			
	Throw	18 13	14 11	13 10			
150	Neck Velocity	675	360	300	257	225	
	Ps	.056	.016	.011	.008	.006	
	Throw	23 18	19 14	18 13	17 13	16 12	
200	Neck Velocity	900	480	400	343	300	257
	Ps	.100	.028	.020	.015	.011	.008
	Throw	28 21	23 17	22 16	20 15	20 15	19 14
250	Neck Velocity	600	500	429	375	321	
	Ps	.045	.031	.023	.017	.013	
	Throw	27 20	25 19	24 18	24 18	22 16	
300	Neck Velocity	720	600	514	450	386	
	Ps	.064	.045	.033	.025	.018	
	Throw	30 23	28 21	27 20	26 19	24 18	
350	Neck Velocity	840	700	600	525	450	
	Ps	.087	.061	.045	.034	.025	
	Throw	34 25	32 24	30 22	29 21	27 20	
400	Neck Velocity	800	686	600 514			
	Ps	.100		.074	.034	.041	
	Throw	38 28		36 27	34 25	32 34	
450	Neck Velocity	900	771	675	579		
	Ps	.124	.091	.070	.051		
	Throw	40 30		38 29	37 27	35 26	
500	Neck Velocity	857		750	643		
	Ps	.110		.084	.062		
	Throw	41 31		39 29	37 28		
550	Neck Velocity	825		707			
	Ps	.100		.074			
	Throw	41 31		39 29			
600	Neck Velocity	900		771			
	Ps	.118		.086			
	Throw	44 33		42 33			
650	Neck Velocity	836		707			
	Ps	.066		.044			
	Throw	44 33		42 33			
700	Neck Velocity	900		771			
	Ps	.100		.074			
	Throw	44 33		42 33			

Model 900, 900S

Residential Round Ceiling Diffuser

CFM	Outlet Size	6"	8"	10"	12"	14"
50	Neck Velocity	265				
	Ps	.008				
	Throw	3 5				
75	Neck Velocity	398	222			
	Ps	.017	.006			
	Throw	3 6	4 6			
100	Neck Velocity	531	296			
	Ps	.034	.011			
	Throw	4 6	4 6			
150	Neck Velocity	796	443	265		
	Ps	.075	.023	.009		
	Throw	5 7	5 7	5 8		
200	Neck Velocity	1062	591	353	260	
	Ps	.130	.040	.017	.009	
	Throw	6 8	5 8	5 9	6 9	
250	Neck Velocity	739	442	325	238	
	Ps	.060	.025	.013	.008	
	Throw	5 8	5 10	7 11	6 9	
300	Neck Velocity	887	530	390	286	
	Ps	.085	.035	.018	.010	
	Throw	5 9	6 12	7 12	7 11	
400	Neck Velocity	1183	706	520	381	
	Ps	.145	.060	.031	.018	
	Throw	7 11	7 13	8 13	8 13	
500	Neck Velocity	883	650	467		
	Ps	.090		.046	.027	
	Throw	7 14		9 14	9 14	
600	Neck Velocity	1060	780	571		
	Ps	.130		.064	.037	
	Throw	8 15		11 15	11 15	
700	Neck Velocity	910	667			
	Ps	.086		.049		
	Throw	12 17		12 17		
800	Neck Velocity	1040		762		
	Ps	.110		.062		
	Throw	13 19		13 19		
900	Neck Velocity	1170		857		
	Ps	.140		.078		
	Throw	15 21		15 21		
1000	Neck Velocity	952				
	Ps	.094				
	Throw	18 23				

Throws First Value 100 fpm - Second Value 50 fpm

Performance Notes:

1. Neck Velocity – The neck velocity is in feet per minute.
2. Ps – Static pressure readings are in inches water gauge.
3. Throw – Throws indicated are based on total number of feet of projected air when a terminal velocity of 50 feet per minute is reached. Values reflect side louver throw and center louver throw respectively. Throw should extend at least 75% of the distance from the face of the grille to the wall opposite the outlet. Throws are based on a 9 foot ceiling height. The first values of the throw at 0° deflection; second value represents throw at 22° deflection.

Model 9000-1, 9000-6 Louvered Directional Supply

Size	Area Ak	Inlet Velocity Ps	200	300	400	500	600	700
6x6	.25	CFM	50	75	100	125	150	175
		Throw	6-4-4-3	8-6-6-4	10-7-7-5	12-8-8-6	14-10-10-7	16-11-11-8
		NC	<20	<20	<20	20	26	31
8x8	.44	CFM	90	130	175	220	265	310
		Throw	8-6-6-4	10-7-7-5	14-10-10-7	16-11-11-8	18-13-13-9	20-14-14-10
		NC	<20	<20	<20	23	28	33
10x10	.69	CFM	140	205	275	345	415	485
		Throw	10-7-7-5	14-10-10-7	18-13-13-9	20-14-14-10	24-17-17-12	26-18-18-13
		NC	<20	<20	<20	23	26	31
12x12	1.00	CFM	200	300	400	500	600	700
		Throw	12-8-8-6	16-11-11-8	20-14-14-10	24-17-17-12	28-20-20-14	30-21-21-15
		NC	<20	<20	<20	25	31	36
14x14	1.36	CFM	270	405	545	680	815	950
		Throw	14-10-10-7	20-14-14-10	24-17-17-12	28-20-20-14	34-24-24-17	36-25-25-18
		NC	<20	<20	21	27	33	38
16x16	1.78	CFM	355	530	710	885	1070	1245
		Throw	16-11-11-8	22-16-16-11	28-20-20-14	32-22-22-16	38-27-27-19	40-28-28-20
		NC	<20	<20	21	28	33	38
18x18	2.25	CFM	450	670	900	1120	1345	1570
		Throw	18-13-13-9	24-17-17-12	30-21-21-15	36-25-25-18	42-30-30-21	46-32-32-23
		NC	<20	<20	22	29	34	39
20x20	2.78	CFM	555	830	1110	1390	1670	1945
		Throw	20-14-14-10	26-18-18-13	32-22-22-16	40-28-28-20	46-32-32-23	48-34-34-24
		NC	<20	<20	23	30	35	40
22x22	3.36	CFM	670	1010	1345	1680	2015	2350
		Throw	22-16-16-11	30-21-21-15	36-25-25-18	44-31-31-22	50-35-35-25	54-38-38-27
		NC	<20	<20	23	31	36	41
24x24	4.00	CFM	800	1200	1600	2000	2400	2800
		Throw	24-17-17-12	32-22-22-16	40-28-25-20	48-34-34-24	56-39-39-28	60-42-42-30
		NC	<20	<20	26	32	38	42

Performance Notes:

- All units have been tested in accordance with ANSI / ASHRAE 70-2006. Data in table is derived from such testing.
- Ps – Static pressure required to obtain listed cfm, units of inches water gauge (in. wg.).
- NC – Calculated noise criteria using 10 dB per octave room attenuation (dimensionless).
- Throw – Non-isothermal throw, in feet, for a terminal velocity of 50 fpm.
- Inlet Velocity = fpm (feet per minute).

Model DGSF, DGDF Transfer Door Grille

Size	Area Ak	Inlet Velocity PS	.024	.055	.097	.151	.218	.297	.388	.491	.606
6x6	.25	CFM	50	75	100	125	150	175	200	225	250
		NC	<15	19	23	26	29	32	34	37	39
8x6	.33	CFM	67	100	133	167	200	233	267	300	333
		NC	16	20	24	27	30	33	36	38	40
8x8	.44	CFM	89	133	178	222	267	311	356	400	444
		NC	17	22	25	29	32	34	37	39	42
10x6	.42	CFM	83	125	167	208	250	292	333	375	417
		NC	17	21	25	28	31	34	37	39	41
10x8	.56	CFM	111	167	222	278	333	389	444	500	556
		NC	18	23	26	30	32	35	38	40	43
10x10	.69	CFM	139	208	278	347	417	486	556	625	694
		NC	19	24	27	30	33	36	39	41	44
12x10	.83	CFM	1678	250	333	417	500	583	667	750	833
		NC	20	24	28	31	34	37	40	42	44
12x12	1.00	CFM	200	300	400	500	600	700	800	900	1000
		NC	21	25	29	32	35	38	40	43	45
14x12	1.17	CFM	233	350	467	583	700	817	933	1050	1167
		NC	21	26	29	33	36	38	41	43	46
14x14	1.36	CFM	272	408	544	681	817	953	1089	1225	1361
		NC	22	26	30	33	36	39	42	44	46
16x12	1.33	CFM	267	400	533	667	800	933	1067	1200	1333
		NC	22	26	30	33	36	39	42	44	46

Size	Area Ak	Inlet Velocity PS	.024	.055	.097	.151	.218	.297	.388	.491	.606
16x16	1.78	CFM	356	533	711	889	1067	1244	1422	1600	1778
		NC	23	28	31	35	38	40	43	45	48
18x12	1.5	CFM	300	450	600	750	900	1050	1200	1350	1500
		NC	23	27	31	34	37	40	42	45	47
18x18	2.25	CFM	450	675	900	1125	1350	1575	1800	2025	2250
		NC	24	29	32	36	39	41	44	46	49
20x12	1.67	CFM	333	500	667	833	1000	1167	1333	1500	1667
		NC	23	27	31	34	37	40	43	45	47
20x20	2.78	CFM	556	833	1111	1389	1667	1944	2222	2500	2778
		NC	25	30	33	36	39	42	45	47	50
24x12	2.00	CFM	400	600	800	1000	1200	1400	1600	1800	2000
		NC	24	28	32	35	38	41	43	46	48
24x18	3.00	CFM	600	900	1200	1500	1800	2100	2400	2700	3000
		NC	26	30	34	37	40	43	45	48	50
24x24	4.00	CFM	800	1200	1600	2000	2400	2800	3200	3600	4000
		NC	27	31	35	38	41	44	46	49	51
30x12	2.50	CFM	500	750	1000	1250	1500	1750	2000	2250	2500
		NC	25	29	33	36	39	42	44	47	49
30x20	1.17	CFM	833	1250	1667	2083	2500	2917	3333	3750	4167
		NC	27	31	35	38	41	44	47	49	51
30x24	4.08	CFM	1000	1500	2000	2500	3000	3500	4000	4500	5000
		NC	28	32	36	39	42	45	47	50	52
30x30	6.25	CFM	1250	1875	2500	3125	3750	4375	5000	5625	6250
		NC	29	33	37	40	43	46	48	51	53
Throw		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Performance Notes:

- All units have been tested in accordance with ANSI / ASHRAE 70-2006. Data in table is derived from such testing.
- Ps – Static pressure required to obtain listed cfm, units of inches water gauge (in. wg.).
- NC – Calculated noise criteria using 10 dB per octave room attenuation (dimensionless).
- Throw – Non-isothermal throw, in feet, for a terminal velocity of 50 fpm.
- Inlet Velocity = fpm (feet per minute).



Model CC5, CC5F, CC5TB, CC5DTB, CC5FTB, CC5FTBI, CC520F, CC5CO

Cube Core Return / Return Filter

Size	Area		Inlet Velocity		200	300	400	500	600	700	800	900	1000
	Ak	PS	.004	.008	.014	.022	.032	.044	.057	.072	.089		
6x6	.25	CFM	50	75	100	125	150	175	200	225	250		
	.25	NC	<15	<15	<15	<15	<15	<15	<15	16	19		
8x6	.33	CFM	67	100	133	167	200	233	267	300	333		
	.33	NC	<15	<15	<15	<15	<15	<15	<15	17	20		
8x8	.44	CFM	89	133	178	222	267	311	356	400	444		
	.44	NC	<15	<15	<15	<15	<15	<15	15	18	21		
10x6	.42	CFM	83	125	167	208	250	292	333	375	417		
	.41	NC	<15	<15	<15	<15	<15	<15	15	18	21		
10x8	.56	CFM	111	167	222	278	333	389	444	500	556		
	.54	NC	<15	<15	<15	<15	<15	<15	16	19	22		
10x10	.69	CFM	139	208	278	347	417	486	556	625	694		
	.68	NC	<15	<15	<15	<15	<15	<15	17	20	23		
12x6	.50	CFM	100	150	200	250	300	350	400	450	500		
	.49	NC	<15	<15	<15	<15	<15	<15	16	19	22		
12x8	.67	CFM	133	200	267	333	400	467	533	600	667		
	.65	NC	<15	<15	<15	<15	<15	<15	16	19	22		
12x10	.83	CFM	167	250	333	417	500	583	667	750	833		
	.82	NC	<15	<15	<15	<15	<15	15	18	21	24		
12x12	1.00	CFM	200	300	400	500	600	700	800	900	1000		
	.98	NC	<15	<15	<15	<15	<15	16	19	22	25		
14x6	.98	CFM	117	175	233	292	350	408	467	525	583		
	.57	NC	<15	<15	<15	<15	<15	<15	17	19	22		
14x8	.78	CFM	156	233	311	389	467	544	622	700	778		
	.76	NC	<15	<15	<15	<15	<15	15	18	21	24		
14x14	1.36	CFM	272	408	544	681	817	953	1089	1225	1361		
	1.33	NC	<15	<15	<15	<15	<15	17	20	23	26		
16x16	1.78	CFM	356	533	711	889	1067	1244	1422	1600	1778		
	1.74	NC	<15	<15	<15	<15	16	19	21	24	27		
18x18	2.25	CFM	450	675	900	1125	1350	1575	1800	2025	2250		
	2.21	NC	<15	<15	<15	<15	17	20	22	25	28		
20x12	1.67	CFM	333	500	667	833	1000	1167	1333	1500	1667		
	1.62	NC	<15	<15	<15	<15	16	18	21	24	27		
20x20	2.78	CFM	556	833	1111	1389	1667	1944	2222	2500	2778		
	2.72	NC	<15	<15	<15	15	18	21	23	26	29		
22x22	3.36	CFM	672	1008	1334	1681	2017	2353	2689	3025	3361		
	3.29	NC	<15	<15	<15	16	19	21	24	27	30		
24x12	2.00	CFM	400	600	800	1000	1200	1400	1600	1800	2000		
	1.96	NC	<15	<15	<15	16	19	22	25	28			
24x14	2.33	CFM	467	700	933	1167	1400	1633	1867	2100	2333		
	2.29	NC	<15	<15	<15	<15	17	20	23	26	28		
24x24	4.00	CFM	800	1200	1600	2000	2400	2800	3200	3600	4000		
	3.96	NC	<15	<15	<15	17	19	22	25	28	31		
26x4	.72	CFM	144	217	289	361	433	506	578	650	722		
	1.06	NC	<15	<15	<15	<15	<15	<15	18	20	23		
48x24	8.00	CFM	1600	2400	3200	4000	4800	5600	6400	7200	8000		
	7.84	NC	<15	<15	17	20	22	25	28	31	34		
		Throw	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Model SRH, SRHF, RH, RHD, RHF, RHE, RHED, RHEF, SRH-6, SRHF-6, SRHFI-6, SRH20F, RHTB, RHFTB, RHFTBI, RH20F, RHETB, RHEFTB, RHEFTBI

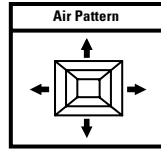
Fixed Bar Return / Return Air Filter Grille

Size	Area		Inlet Velocity		200	300	400	500	600	700	800	900	1000
	Ak	PS	.005	.011	.020	.031	.045	.061	.080	.101	.125		
6x6	.25	CFM	50	75	100	125	150	175	200	225	250		
	.12	NC	<15	<15	<15	17	20	22	25	27	29		
8x4	.22	CFM	44	67	89	111	133	156	178	200	222		
	.11	NC	<15	<15	<15	16	19	22	24	27	29		
8x6	.33	CFM	67	100	133	167	200	233	267	300	333		
	.16	NC	<15	<15	<15	18	21	24	26	29	31		
8x8	.44	CFM	89	133	178	222	267	311	356	400	444		
	.22	NC	<15	<15	16	19	22	25	27	30	32		
10x10	.69	CFM	139	208	278	347	417	486	556	625	694		
	.68	NC	<15	<15	18	21	24	27	29	32	34		
12x6	.50	CFM	100	150	200	250	300	350	400	450	500		
	.49	NC	<15	<15	17	20	23	25	28	30	32		
12x12	1.00	CFM	200	300	400	500	600	700	800	900	1000		
	.98	NC	<15	16	20	23	26	28	31	33	35		
14x6	.58	CFM	117	175	233	292	350	408	467	525	583		
	.57	NC	<15	<15	17	21	23	26	29	31	33		
14x8	.78	CFM	156	233	311	389	467	544	622	700	778		
	.76	NC	<15	<15	19	22	25	27	30	32	34		
14x10	.97	CFM	194	292	389	486	583	681	778	875	972		
	.95	NC	<15	16	19	23	26	28	31	33	35		
14x14	1.36	CFM	272	408	544	681	817	953	1089	1225	1361		
	1.33	NC	<15	17	21	24	27	30	32	35	37		
16x12	1.33	CFM	267	400	533	667	800	933	1067	1200	1333		
	1.31	NC	<15	17	21	24	27	30	32	35	37		
20x12	1.67	CFM	333	500	667	833	1000	1167	1333	1500	1667		
	1.63	NC	<15	18	22	25	28	31	33	35	38		
20x14	1.94	CFM	389	583	778	972	1167	1361	1556	1750	1944		
	19.91	NC	<15	19	22	26	29	31	34	36	38		
20x20	2.78	CFM	556	833	1111	1389	1667	1944	2222	2500	2778		
	2.72	NC	16	20	24	27	30	33	35	38	40		
24x8	1.33	CFM	267	400	533	667	800	933	1067	1200	1333		
	1.31	NC	<15	17	21	24	27	30	32	35	37		
24x12	2.00	CFM	400	600	800	1000	1200	1400	1600	1800	2000		
	1.96	NC	<15	19	23	26	32	34	36	38	40		
30x6	1.25	CFM	250	375	500	625	750	875	1000	1125	1250		
	1.23	NC	<15	17	21	24	27	29	32	34	36		
30x12	2.50	CFM	500	750	1000	1250	1500	1750	2000	2250	2500		
	2.45	NC	15	20	24	27	30	32	35	37	39		
30x20	4.17	CFM	833	1250	1667	2083	2500	2917	3333	3750	4167		
	4.08	NC	17	22	26	29	32	35	37	39	42		
36x12	3.00	CFM	600	900	1200	1500	1800	2100	2400	2700	3000		
	2.94	NC	16	21	24	28	31	33	36	38	40		
48x12	4.00	CFM	800	1200	1600	2000	2400	2800	3200	3600	4000		
	3.92	NC	17	22	26	29	32	35	37	39	41		
48x24	8.00	CFM	1600	2400	3200	4000	4800	5600	6400	7200	8000		
	7.84	NC	20	25	29	32	35	38	40	42	44		
		Throw	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Performance Notes:

Model 5500 DAF-CC5 Aluminum Concentric Supply / Return

Based on 100% Return of Supply Air for 2 – 10 Ton Roof Packages								
Tonnage	2	2 1/2	3	4	5	7 1/2	10	
Capacity (CFM)	800	1000	1200	1600	2000	3000	4000	
Supply Neck Size	21x21	21x21	24x24	27x27	30x30	39x39	45x45	
Ak	60	.60	.70	1.10	1.30	2.20	2.60	
	Vk	1335	1665	1715	1430	1575	1365	1540
	Ps	.09	.15	.15	.11	.13	.10	.12
	Throw	14	16	17	20	23	31	39
Return Neck Size	15X15	15X15	18X18	18X18	21X21	27X27	33X33	
Inlet Velocity	Ak	1.56	1.56	2.25	2.25	3.06	5.06	7.56
	Ps	.09	.15	.15	.11	.13	.10	.12
	NC	25	35	37	30	37	37	38



Based on 75% Return of Supply Air								
All Supplies	Face Velocity	500	750	1000	1250	1500	1750	2000
	Ps	.013	.030	.050	.080	.120	.160	.210
12x12	Total CFM	90	130	175	220	265	310	350
	Supply Throw	4	5	8	10	12	13	14
	Ak = .18 NC	<15	16	21	26	31	35	39
9x9	Total CFM	70	100	130	165	200	230	260
	Return Inlet Velocity	125	180	230	295	355	410	465
	Ak = .56 Ps	.01	.01	.01	.01	.02	.03	.04
15x15	Total CFM	200	300	400	500	600	700	800
	Supply Throw	5	8	10	12	14	17	19
	Ak = .40 NC	<15	16	21	26	35	40	45
9x9	Total CFM	150	225	300	375	450	525	600
	Return Inlet Velocity	265	400	535	670	805	935	1070
	Ak = .56 Ps	.01	.02	.04	.06	.09	.12	.16
18x18	Total CFM	250	375	500	625	750	875	1000
	Supply Throw	5	8	11	12	14	16	19
	Ak = .50 NC	<15	19	24	29	34	38	42
12x12	Total CFM	190	280	375	470	560	655	750
	Return Inlet Velocity	190	280	375	470	560	655	750
	Ak = 1.00 Ps	.01	.01	.02	.03	.04	.06	.08
21x21	Total CFM	300	450	600	750	900	1050	1200
	Supply Throw	5	8	12	13	15	17	20
	Ak = .60 NC	15	20	25	30	35	39	43
15x15	Total CFM	225	340	450	560	675	790	900
	Return Inlet Velocity	145	220	290	360	430	505	575
	Ak = 1.56 Ps	.01	.01	.01	.02	.03	.04	.05
24x24	Total CFM	350	525	700	875	1050	1225	1400
	Supply Throw	5	8	11	13	16	20	25
	Ak = .70 NC	16	21	26	31	36	40	43
18x18	Total CFM	260	395	525	655	790	920	1050
	Return Inlet Velocity	115	175	235	290	350	410	465
	Ak = 2.25 Ps	.01	.01	.01	.01	.02	.03	.04

Based on 75% Return of Supply Air								
All Supplies	Face Velocity	500	750	1000	1250	1500	1750	2000
	Ps	.013	.030	.050	.080	.120	.160	.210
30x30	Total CFM	640	955	1275	1595	1915	2235	2550
	Supply Throw	7	12	16	17	21	25	30
	Ak = 1.30 NC	15	20	27	33	38	42	45
21x21	Total CFM	480	715	955	1195	1435	1675	1910
	Return Inlet Velocity	155	235	310	390	470	545	625
	Ak = 3.06 Ps	.01	.01	.01	.02	.03	.04	.05
36x36	Total CFM	1000	1500	2000	2500	3000	3500	4000
	Supply Throw	8	13	18	22	30	34	38
	Ak = 2.00 NC	15	20	28	34	39	43	47
24x24	Total CFM	750	1125	1500	1875	2250	2625	3000
	Return Inlet Velocity	185	280	375	470	560	655	750
	Ak = 4.00 Ps	.01	.01	.02	.03	.05	.06	.08
42x42	Total CFM	1440	2160	2875	3595	4315	5035	5750
	Supply Throw	10	21	28	34	39	43	49
	Ak = 2.90 NC	17	23	30	36	41	45	48
27x27	Total CFM	1080	1615	2160	2695	3235	3775	4310
	Return Inlet Velocity	215	320	425	530	640	745	850
	Ak = 6.25 Ps	.01	.01	.03	.04	.06	.08	.10
48x48	Total CFM	1690	2530	3380	4220	5065	5910	6750
	Supply Throw	11	23	24	30	41	48	55
	Ak = 2.60 NC	16	23	32	37	41	45	49
33x33	Total CFM	1265	1900	2530	3165	3800	4430	5065
	Return Inlet Velocity	170	250	335	420	500	585	670
	Ak = 7.56 Ps	.01	.01	.02	.03	.04	.05	.06
60x60	Total CFM	2190	3280	4375	5470	6565	7660	8750
	Supply Throw	13	25	28	32	43	50	56
	Ak = 4.37 NC	21	28	32	35	38	41	46
45x45	Total CFM	1640	2460	3280	4100	4925	5745	6565
	Return Inlet Velocity	115	175	235	290	350	410	465
	Ak = 14.06 Ps	.002	.004	.007	.01	.02	.025	.03

Model 5500 SI Steel Square Louver Face / Insulated

Module Size	Neck Size	Neck Velocity								
		200	300	400	500	600	700	800	900	
		Ps	.032	.060	.094	.133	.176	.224	.275	.330
24x24	6"	CFM	40	60	80	100	120	135	155	175
		Throw	5	7	8	8	9	10	11	11
		NC	<15	<15	<15	18	23	26	32	34
24x24	8"	CFM	70	105	140	175	210	245	280	315
		Throw	7	9	10	11	12	13	14	15
		NC	<15	<15	<15	21	26	30	34	37
24x24	10"	CFM	110	165	220	275	325	380	435	490
		Throw	9	11	13	15	16	17	18	20
		NC	<15	<15	17	23	28	32	35	38
24x24	12"	CFM	155	235	315	395	470	550	630	705
		Throw	11	14	16	18	19	21	22	23
		NC	<15	<15	18	23	26	31	36	39
24x24	14"	CFM	215	320	430	535	640	750	855	960
		Throw	13	16	18	21	23	24	26	28
		NC	<15	16	23	26	31	37	39	43
24x24	15"	CFM	245	370	490	615	735	860	980	1105
		Throw	13	17	20	22	24	26	28	30
		NC	<15	17	23	29	34	38	40	43

Performance Notes

- All units have been tested in accordance with ANSI / ASHRAE 70-2006. Data in table is derived from such testing.
- Ps – Static pressure required to obtain listed cfm, units of inches water gauge (in. wg.).
- NC – Calculated noise criteria using 10 dB per octave room attenuation (dimensionless).
- Throw – Non-isothermal throw, in feet, for a terminal velocity of 50 fpm.
- Inlet Velocity = fpm (feet per minute).

Model 4700, 4700D, 4706, 4706D, 5906
Steel 2-Cone Louver Face

Panel Size	Neck Size	Area Ak	Inlet Velocity	400	500	600	700	800	900	1000	1200
24x24	6"	.20	CFM	80	100	120	135	155	175	195	235
		.014	Ps	.021	.031	.039	.051	.065	.081	.118	
		.093	Throw	5	6	6	6	7	7	8	8
		NC	<15	<15	<15	<15	16	18	23		
24x24	8"	.20	CFM	140	175	210	245	280	315	350	420
		.016	Ps	.025	.036	.048	.063	.080	.099	.142	
		.093	Throw	6	7	8	9	9	10	10	
		NC	<15	<15	<15	<15	18	21	26		
24x24	10"	.20	CFM	220	275	325	380	435	490	545	655
		.019	Ps	.030	.042	.057	.075	.096	.118	.171	
		.093	Throw	8	9	10	11	11	12	13	
		NC	<15	<15	<15	<15	16	20	24	30	
24x24	12"	.20	CFM	315	395	470	55	63	725	785	940
		.021	Ps	.033	.046	.063	.083	.104	.129	.185	
		.093	Throw	9	10	11	12	13	14	14	16
		NC	<15	<15	<15	<15	19	23	27	33	
24x24	14"	.20	CFM	430	535	640	750	855	960	1070	1285
		.026	Ps	.041	.058	.080	.104	.131	.163	.234	
		.093	Throw	11	12	13	14	15	16	17	18
		NC	<15	<15	<15	<15	18	23	28	35	
24x24	15"	.20	CFM	490	615	735	860	980	1105	1225	1475
		.032	Ps	.051	.072	.099	.129	.164	.201	.292	
		.093	Throw	11	13	14	16	16	17	18	20
		NC	<15	<15	<15	16	22	27	31	39	

Model 4800, 4800D, 4806, 4806D, 5906-3
Steel 3-Cone Louver Face

Panel Size	Neck Size	Area Ak	Inlet Velocity	400	500	600	700	800	900	1000	1200
24x24	6"	.20	CFM	80	100	120	135	155	175	195	235
		.013	Ps	.020	.029	.037	.048	.061	.076	.111	
		.093	Throw	5	6	7	7	8	8	9	
		NC	<15	<15	<15	<15	18	21	25		
24x24	8"	.20	CFM	140	175	210	245	280	315	350	420
		.014	Ps	.022	.032	.043	.056	.071	.088	.126	
		.093	Throw	7	8	9	9	10	11	12	
		NC	<15	<15	<15	<15	17	21	24	30	
24x24	10"	.20	CFM	220	275	325	380	435	490	545	655
		.018	Ps	.028	.039	.053	.070	.088	.109	.158	
		.093	Throw	9	10	11	12	12	13	14	15
		NC	<15	<15	<15	<15	19	23	27	33	
24x24	12"	.20	CFM	315	395	470	55	63	725	785	940
		.022	Ps	.035	.049	.067	.088	.111	.137	.197	
		.093	Throw	11	12	12	14	15	16	17	18
		NC	<15	<15	<15	16	21	26	30	36	
24x24	14"	.20	CFM	430	535	640	750	855	960	1070	1285
		.032	Ps	.049	.071	.097	.126	.159	.198	.285	
		.093	Throw	12	14	15	16	17	18	19	21
		NC	<15	<15	<15	17	22	27	32	39	
24x24	15"	.20	CFM	490	615	735	860	980	1105	1225	1475
		.036	Ps	.056	.080	.109	.142	.181	.222	.322	
		.093	Throw	13	15	16	17	19	20	21	23
		NC	<15	<15	<15	16	22	27	31	39	

Model 4750, 4750D, 4756, 4756D, 5956
Steel Square Plaque Face

Panel Size	Neck Size	Area Ak	Inlet Velocity	400	500	600	700	800	900	1000	1200
24x24	6"	.20	CFM	80	100	120	135	155	175	195	235
		.003	Ps	.004	.006	.006	.008	.011	.014	.021	
		4	Throw	6	7	8	8	9	9	10	
		<15	NC	<15	<15	<15	<15	15	18	21	26
24x24	8"	.20	CFM	140	175	210	245	280	315	350	420
		.007	Ps	.012	.017	.023	.030	.038	.047	.067	
		6	Throw	7	9	10	11	12	13	14	
		<15	NC	<15	<15	<15	17	21	25	28	34
24x24	10"	.20	CFM	220	275	325	380	435	490	545	655
		.016	Ps	.025	.034	.047	.061	.078	.096	.139	
		7	Throw	9	11	13	14	15	16	17	
		<15	NC	<15	<15	15	21	26	30	33	37
24x24	12"	.20	CFM	315	395	470	55	63	725	785	940
		.027	Ps	.042	.059	.081	.107	.133	.165	.236	
		9	Throw	11	13	15	17	18	19	21	
		<15	NC	<15	<15	17	22	27	30	33	38
24x24	14"	.20	CFM	430	535	640	750	855	960	1070	1285
		.031	Ps	.049	.069	.095	.124	.156	.194	.280	
		10	Throw	13	15	18	20	21	22	24	
		<15	NC	<15	<15	20	25	30	33	36	40
24x24	15"	.20	CFM	490	615	735	860	980	1105	1225	1475
		.038	Ps	.060	.086	.117	.152	.194	.238	.345	
		11	Throw	14	16	19	21	23	24	26	
		<15	NC	<15	<15	20	27	32	35	37	41

Performance Notes:

- (4700-4706) / (4750-4756) / (4800-4806-4806D) / (5906).
- All units have been tested in accordance with ANSI / ASHRAE 70-2006. Data in table is derived from such testing.
- Ps – Static pressure required to obtain listed cfm, units of inches water gauge (in. wg.).
- NC – Calculated noise criteria using 10 dB per octave room attenuation (dimensional).
- Throw – Non-isothermal horizontal throw, in feet, for a terminal velocity of 50 fpm.
- Ak – Area Factors.
- Inlet Velocity = fpm (feet per minute).

Model 6650 1/2" Slot – CFM Per Linear Foot

Slots	Static Pressure	Horizontal Vertical	.005 .004	.021 .015	.047 .033	.083 .058	.130 .091	.188 .132	.255 .179	.334 .234	.422 .295	.521 .365
1		CFM/LF	5	10	15	20	25	30	335	40	45	50
		Horizontal Throw , Ft	6	12	14	17	19	20	22	24	25	26
		Vertical Throw , Ft	2	7	9	11	12	13	14	15	16	17
		Horizontal NC	<15	<15	<15	17	22	27	30	34	36	38
		Vertical NC	<15	<15	<15	<15	<15	15	18	22	24	26
2		CFM/LF	10	20	30	40	50	60	70	80	90	100
		Horizontal Throw , Ft	8	17	20	24	26	29	31	33	35	37
		Vertical Throw , Ft	3	9	13	15	17	18	20	21	23	24
		Horizontal NC	<15	<15	<15	20	25	30	33	37	39	41
		Vertical NC	<15	<15	<15	<15	<15	18	21	25	27	29
3		CFM/LF	15	30	45	60	75	90	105	120	135	150
		Horizontal Throw , Ft	13	20	25	29	32	35	38	41	43	45
		Vertical Throw , Ft	5	11	16	18	21	23	24	26	28	29
		Horizontal NC	<15	<15	15	22	27	32	35	39	41	43
		Vertical NC	<15	<15	<15	<15	15	20	23	27	29	31
4		CFM/LF	20	40	60	80	100	120	140	160	180	200
		Horizontal Throw , Ft	15	24	29	33	37	41	44	47	50	53
		Vertical Throw , Ft	5	13	18	21	24	26	28	30	32	34
		Horizontal NC	<15	<15	17	24	29	33	36	40	42	44
		Vertical NC	<15	<15	<15	<15	17	21	24	28	30	32
5		CFM/LF	25	50	75	100	125	150	175	200	225	250
		Horizontal Throw , Ft	16	25	32	37	42	46	49	53	56	59
		Vertical Throw , Ft	6	19	23	26	29	32	34	37	39	41
		Horizontal NC	<15	<15	19	26	31	35	37	41	43	45
		Vertical NC	<15	<15	<15	<15	19	23	25	29	31	33
6		CFM/LF	30	60	90	120	150	180	210	240	270	300
		Horizontal Throw , Ft	20	29	35	41	46	50	54	58	61	65
		Vertical Throw , Ft	6	16	23	26	29	32	34	37	39	41
		Horizontal NC	<15	17	20	27	32	36	38	42	44	46
		Vertical NC	<15	<15	<15	15	20	24	26	30	32	35
7		CFM/LF	35	70	105	140	175	210	245	280	315	350
		Horizontal Throw , Ft	18	31	38	44	49	54	59	63	66	70
		Vertical Throw , Ft	7	17	24	28	31	34	37	40	42	45
		Horizontal NC	<15	18	21	28	33	37	39	43	45	47
		Vertical NC	<15	<15	<15	16	21	25	31	33	35	37
8		CFM/LF	40	80	120	160	200	240	280	320	360	400
		Horizontal Throw , Ft	19	33	41	47	53	58	63	67	71	75
		Vertical Throw , Ft	7	18	26	30	34	37	40	43	45	48
		Horizontal NC	<15	20	22	29	34	39	40	44	45	48
		Vertical NC	<15	<15	<15	17	22	27	28	32	34	36

Performance Notes:

- On units without plenums, pressure drop reported is across the diffuser element only. The field supply pressure drop should be included when determining system fan requirements. A good approximation of the static pressure requirements can be calculated by adding the velocity pressure through the plenum inlet to the diffuser section pressure drop.
- NC is based on a 4-ft. section of diffuser. The following table should be used to calculate sound levels for lengths other than 4 ft.
- To correct throws for lengths other than the 4-ft. lengths used in determining catalog performance, throws should be adjusted per the following table:

NC Correction for Length					
Length (feet)	2	4	6	8	10
NC Correction	-2	+0	+2	+3	+5
Throw Correction Multiplier for Length					
Length (feet)	2	4	8	10	12
Throw Correction	0.7	1.0	1.5	1.7	1.8

- All pressures are in inches of water.
- Isothermal throw is given for terminal velocity 50 fpm, based on 4 ft. section.
- Vertical throw values are based on a 50 fpm terminal velocity.
- For vertical supply, subtract one NC.
- For return minus pattern controllers, deduct 12 NC.
- Throw values are based on a 1-way discharge from the slot. For 2-way discharges, throw is based upon the number and size of the slots throwing in each direction, with the total supply air flow split equally between all slots in the units.
- Data were collected in accordance to ASHRAE Standard 70-1991 "Method of Testing for Rating in the Performance of Air Outlets and Inlets."


Model 6675 3/4" Slot – CFM Per Linear Foot

Slots	Static Pressure	Horizontal Vertical	.011 .007	.024 .014	.042 .025	.066 .040	.095 .057	.129 .077	.168 .101	.213 .128	.263 .158	.318 .191
1	CFM/LF		10	15	20	25	30	35	40	45	50	55
	Horizontal Throw , Ft		6	14	22	24	27	29	31	33	35	36
	Vertical Throw , Ft		2	6	10	12	13	14	15	16	17	18
	Horizontal NC		<15	<15	<15	15	19	23	25	28	31	33
	Vertical NC		<15	<15	<15	<15	<15	<15	<15	16	19	21
2	CFM/LF		20	30	40	50	60	70	80	90	100	110
	Horizontal Throw , Ft		10	22	29	35	38	41	44	46	49	51
	Vertical Throw , Ft		4	8	14	17	18	20	21	23	24	25
	Horizontal NC		<15	<15	<15	18	22	26	28	31	34	36
	Vertical NC		<15	<15	<15	<15	<15	<15	16	19	22	24
3	CFM/LF		30	45	60	75	90	105	120	135	150	165
	Horizontal Throw , Ft		13	27	36	41	44	48	51	54	57	60
	Vertical Throw , Ft		4	10	17	21	23	24	26	28	29	31
	Horizontal NC		<15	<15	<15	20	24	28	30	33	35	37
	Vertical NC		<15	<15	<15	<15	<15	16	18	21	23	25
4	CFM/LF		40	60	80	100	120	140	160	180	200	220
	Horizontal Throw , Ft		24	36	42	47	51	55	59	63	66	70
	Vertical Throw , Ft		5	11	20	24	26	28	30	32	34	36
	Horizontal NC		<15	15	16	22	25	30	31	35	37	39
	Vertical NC		<15	<15	<15	<15	<15	18	19	23	25	27
5	CFM/LF		50	75	100	125	150	175	200	225	250	275
	Horizontal Throw , Ft		30	41	47	52	57	62	66	70	74	78
	Vertical Throw , Ft		6	13	22	27	29	31	34	36	38	39
	Horizontal NC		<15	16	17	23	26	32	33	36	38	40
	Vertical NC		<15	<15	<15	<15	<15	20	21	24	26	28
6	CFM/LF		60	90	120	150	180	210	240	270	300	330
	Horizontal Throw , Ft		29	44	51	57	63	68	73	77	81	85
	Vertical Throw , Ft		6	14	24	29	32	34	37	39	41	43
	Horizontal NC		<15	17	19	24	28	33	34	37	39	41
	Vertical NC		<15	<15	<15	<15	16	21	22	25	27	29
7	CFM/LF		70	105	140	175	210	245	280	315	350	385
	Horizontal Throw , Ft		32	48	55	63	68	73	78	83	88	92
	Vertical Throw , Ft		7	15	26	31	34	37	40	42	45	47
	Horizontal NC		16	18	20	24	29	34	35	38	40	42
	Vertical NC		<15	<15	<15	<15	17	22	23	26	28	30
8	CFM/LF		80	120	160	200	240	280	320	360	400	440
	Horizontal Throw , Ft		34	51	59	66	73	78	84	89	94	99
	Vertical Throw , Ft		7	16	28	34	37	40	43	45	48	50
	Horizontal NC		18	19	22	25	30	35	37	39	41	43
	Vertical NC		<15	<15	<15	<15	18	23	25	27	29	31

Performance Notes:

- On units without plenums, pressure drop reported is across the diffuser element only. The field supply pressure drop should be included when determining system fan requirements. A good approximation of the static pressure requirements can be calculated by adding the velocity pressure through the plenum inlet to the diffuser section pressure drop.
- NC is based on a 4-ft. section of diffuser. The following table should be used to calculate sound levels for lengths other than 4 ft.
- To correct throws for lengths other than the 4-ft. lengths used in determining catalog performance, throws should be adjusted per the following table:

NC Correction for Length					
Length (feet)	2	4	6	8	10
NC Correction	-2	+0	+2	+3	+5

Throw Correction Multiplier for Length					
Length (feet)	2	4	8	10	12
Throw Correction	0.7	1.0	1.5	1.7	1.8

- All pressures are in inches of water.
- Isothermal throw is given for terminal velocity 50 fpm, based on 4-ft. section.
- Vertical throw values are based on a 50 fpm terminal velocity.
- For vertical supply, subtract one NC.
- For return minus pattern controllers, deduct 12 NC.
- Throw values are based on a 1-way discharge from the slot. For 2-way discharges, throw is based upon the number and size of the slots throwing in each direction, with the total supply air flow split equally between all slots in the units.
- Data were collected in accordance to ASHRAE Standard 70-1991 "Method of Testing for Rating in the Performance of Air Outlets and Inlets."

Model 6610 1" Slot – CFM Per Linear Foot

Slots	Static Pressure	Horizontal Vertical	.008 .003	.030 .012	.047 .020	.068 .028	.092 .037	.120 .040	.152 .061	.188 .076	.227 .092	.270 .109
1		CFM/LF	10	20	25	30	35	40	45	50	55	60
		Horizontal Throw , Ft	6	22	24	27	29	31	33	35	36	38
		Vertical Throw , Ft	2	10	12	13	14	15	16	17	18	19
		Horizontal NC	<15	<15	<15	<15	19	22	24	26	28	30
		Vertical NC	<15	<15	<15	<15	<15	<15	<15	<15	<15	16
2		CFM/LF	20	40	50	60	70	80	90	100	110	120
		Horizontal Throw , Ft	10	29	35	38	41	44	46	49	51	54
		Vertical Throw , Ft	4	14	17	18	20	21	23	24	25	26
		Horizontal NC	<15	<15	<15	<15	21	25	27	29	31	33
		Vertical NC	<15	<15	<15	<15	<15	<15	15	17	19	21
3		CFM/LF	30	60	75	90	105	120	135	150	165	180
		Horizontal Throw , Ft	18	36	41	44	48	51	54	57	60	63
		Vertical Throw , Ft	4	17	21	23	24	26	28	29	31	32
		Horizontal NC	<15	<15	<15	17	22	27	28	30	32	34
		Vertical NC	<15	<15	<15	<15	<15	15	16	18	20	22
4		CFM/LF	40	80	100	120	140	160	180	200	220	240
		Horizontal Throw , Ft	24	42	47	51	55	59	63	66	70	73
		Vertical Throw , Ft	5	20	24	26	28	30	32	34	35	37
		Horizontal NC	<15	<15	15	19	24	29	30	32	34	36
		Vertical NC	<15	<15	<15	<15	<15	17	18	20	22	24
5		CFM/LF	50	100	125	150	175	200	225	250	275	300
		Horizontal Throw , Ft	30	47	52	57	62	66	70	74	78	81
		Vertical Throw , Ft	6	24	29	32	34	37	39	41	43	45
		Horizontal NC	<15	<15	16	21	25	31	32	34	35	37
		Vertical NC	<15	<15	<15	<15	<15	19	20	22	23	25
6		CFM/LF	60	120	150	180	210	240	270	300	330	360
		Horizontal Throw , Ft	29	51	57	63	68	73	77	81	85	89
		Vertical Throw , Ft	6	24	29	32	34	37	39	41	43	45
		Horizontal NC	<15	15	17	22	27	33	34	35	36	38
		Vertical NC	<15	<15	<15	<15	<15	21	22	23	24	26
7		CFM/LF	70	140	175	210	245	280	315	350	385	420
		Horizontal Throw , Ft	32	55	62	68	73	78	83	88	92	96
		Vertical Throw , Ft	7	26	31	34	37	40	42	45	47	49
		Horizontal NC	<15	16	18	24	28	34	36	37	38	39
		Vertical NC	<15	<15	<15	<15	16	22	24	25	26	27
8		CFM/LF	80	160	200	240	280	320	360	400	440	480
		Horizontal Throw , Ft	34	59	66	73	78	84	89	94	98	103
		Vertical Throw , Ft	7	28	34	37	40	43	45	48	50	52
		Horizontal NC	<15	16	20	26	30	35	37	38	39	41
		Vertical NC	<15	<15	<15	<15	18	23	25	26	27	29

Performance Notes:

- On units without plenums, pressure drop reported is across the diffuser element only. The field supply pressure drop should be included when determining system fan requirements. A good approximation of the static pressure requirements can be calculated by adding the velocity pressure through the plenum inlet to the diffuser section pressure drop.
- NC is based on a 4-ft. section of diffuser. The following table should be used to calculate sound levels for lengths other than 4 ft.
- To correct throws for lengths other than the 4-ft. lengths used in determining catalog performance, throws should be adjusted per the following table:

NC Correction for Length					
Length (feet)	2	4	6	8	10
NC Correction	-2	+0	+2	+3	+5

Throw Correction Multiplier for Length					
Length (feet)	2	4	8	10	12
Throw Correction	0.7	1.0	1.5	1.7	1.8

- All pressures are in inches of water.
- Isothermal throw is given for terminal velocity 50 fpm, based on 4-ft section.
- Vertical throw values are based on a 50 fpm terminal velocity.
- For vertical supply, subtract one NC.
- For return minus pattern controllers, deduct 12 NC.
- Throw values are based on a 1-way discharge from the slot. For 2-way discharges, throw is based upon the number and size of the slots throwing in each direction, with the total supply air flow split equally between all slots in the units.
- Data were collected in accordance to ASHRAE Standard 70-1991 "Method of Testing for Rating in the Performance of Air Outlets and Inlets."

Model PHPS-6, PHPSI-6 One Slot

		CFM/LF	10	15	25	40	60	75	90	120		
1/2" Slot Width	2' Length 8" Inlet	Horizontal	CFM	20	30	50	80	120	150	180	240	
			PS	.010	.023	.064	.163	.367	.574	.826	1.469	
		Vertical	Throw	6	8	10	12	15	17	19	22	
			NC	<10	<10	17	29	39	43	47	56	
	4' Length 8" Inlet	Horizontal	CFM	40	60	100	160	240	300	360		
			PS	.010	.023	.063	.160	.360	.563	.81		
		Vertical	Throw	7	10	14	18	22	24	26		
			NC	<10	<10	20	32	42	46	50		
	3/4" Slot Width	2' Length 8" Inlet	Horizontal	CFM	20	30	50	80	120	150	180	240
				PS	.007	.015	.041	.104	.235	.367	.528	.939
			Vertical	Throw	5	7	9	12	14	16	17	20
				NC	<10	<10	10	23	32	37	40	47
4' Length 8" Inlet		Horizontal	CFM	40	60	100	160	240	300	360		
			PS	.006	.014	.040	.102	.230	.360	.518		
		Vertical	Throw	6	8	13	16	20	22	25		
			NC	<10	<10	15	26	35	40	43		
1" Slot Width		2' Length 8" Inlet	Horizontal	CFM	20	30	50	80	120	150	180	240
				PS	.004	.010	.027	.069	.155	.242	.349	.620
			Vertical	Throw	3	5	8	11	13	15	16	18
				NC	<10	<10	<10	13	22	29	34	42
	4' Length 8" Inlet	Horizontal	CFM	40	60	100	160	240	300	360	480	
			PS	.004	.009	.026	.068	.152	.237	.342	.608	
		Vertical	Throw	5	7	12	15	18	21	23	26	
			NC	<10	<10	<10	16	25	32	37	45	

Model PHPS-6, PHPSI-6 Two Slot

		CFM/LF	10	15	25	40	60	75	90	120		
1/2" Slot Width	2' Length 8" Inlet	Horizontal	CFM	20	30	50	80	120	150	180	240	
			PS	.005	.012	.032	.083	.186	.291	.419	.745	
		Vertical	Throw	3	5	8	13	17	19	21	24	
			NC	<10	<10	<10	15	26	32	37	43	
	4' Length 8" Inlet	Horizontal	CFM	40	60	100	160	240	300	360	480	
			PS	.005	.011	.032	.081	.183	.285	.411	.730	
		Vertical	Throw	4	7	11	18	24	27	30	34	
			NC	<10	<10	<10	18	29	35	40	46	
	3/4" Slot Width	2' Length 8" Inlet	Horizontal	CFM	20	30	50	80	120	150	180	240
				PS	.004	.008	.023	.059	.133	.208	.299	.532
			Vertical	Throw	3	5	8	12	17	19	21	24
				NC	<10	<10	<10	10	20	26	31	38
4' Length 8" Inlet		Horizontal	CFM	40	60	100	160	240	300	360	480	
			PS	.004	.008	.023	.058	.130	.204	.293	.521	
		Vertical	Throw	5	8	13	20	24	27	30	34	
			NC	<10	<10	<10	14	23	29	34	41	
1" Slot Width		2' Length 8" Inlet	Horizontal	CFM	20	30	50	80	120	150	180	240
				PS	.001	.002	.006	.014	.033	.051	.073	.130
			Vertical	Throw	1	1	2	4	7	8	10	13
				NC	<10	<10	<10	<10	<10	13	18	26
	4' Length 8" Inlet	Horizontal	CFM	40	60	100	160	240	300	360	480	
			PS	.001	.002	.007	.017	.039	.060	.087	.154	
		Vertical	Throw	1	1	2	6	9	11	14	18	
			NC	<10	<10	<10	<10	11	15	20	28	

Performance Notes:

- All units have been tested in accordance with ANSI / ASHRAE 70-2006. Data in table is derived from such testing.
- Ps – Static pressure required to obtain listed cfm, units of inches water gauge (in. wg.).
- NC – Calculated noise criteria using 10 dB per octave room attenuation (dimensionless).
- Throw – Non-isothermal throw, in feet, for a terminal velocity of 50 fpm. Throw are listed in one-way direction.
- Two-way throw can be determined by dividing the supply air volume equally in each direction and use the one-way throw values listed.

Model PHPS-6, PHPSI-6 Three Slot

		CFM/LF	25	40	60	80	100	120	160	200			CFM/LF	25	40	60	80	100	120	160	200		
1/2" Slot Width	2' Length 8" Inlet	Horizontal	CFM	50	80	120	160	200	240	320	400	1" Slot Width	2' Length 10" Inlet	Horizontal	CFM	50	80	120	160	200	240	320	400
			PS	.012	.030	.068	.121	.188	.271	.483	.754				PS	.005	.013	.029	.052	.081	.117	.208	.325
			Throw	12	15	19	21	24	26	30	34				Throw	8	13	19	21	24	26	30	34
		Vertical	NC	<10	<10	16	23	29	34	41	48			NC	<10	<10	<10	17	25	31	39	46	
			PS	.009	.023	.052	.092	.144	.207	.368	.576			PS	.004	.010	.022	.039	.062	.089	.158	.247	
			Throw	3	7	11	15	18	21	25	27			Throw	2	4	7	9	11	14	18	23	
	4' Length 8" Inlet	Horizontal	CFM	100	160	240	320	400	480	640	800		4' Length 10" Inlet	Horizontal	CFM	100	160	240	320	400	480	640	800
			PS	.012	.030	.067	.118	.185	.266	.473	.739				PS	.005	.013	.029	.051	.080	.115	.204	.318
			Throw	12	19	26	30	34	37	43	48				Throw	10	16	24	30	34	37	43	48
		Vertical	NC	<10	<10	19	26	32	37	44	51			NC	<10	<10	11	20	28	34	42	49	
			PS	.009	.023	.051	.090	.141	.203	.361	.564			PS	.004	.010	.022	.039	.060	.087	.155	.242	
			Throw	4	10	15	21	26	30	35	39			Throw	3	7	11	14	18	21	28	36	
3/4" Slot Width	2' Length 8" Inlet	Horizontal	CFM	50	80	120	160	200	240	320	400	1-1/2" Slot Width	2' Length 10" Inlet	Horizontal	CFM	50	80	120	160	200	240	320	400
			PS	.008	.022	.049	.087	.135	.195	.346	.541				PS	.003	.006	.015	.026	.041	.058	.104	.162
			Throw	9	15	19	21	24	26	30	34				Throw	6	10	15	20	24	26	30	34
	Vertical	NC	<10	<10	<10	18	23	27	34	40	NC		<10	<10	<10	11	15	19	27	33			
		PS	.006	.016	.037	.066	.103	.148	.263	.411	PS		.002	.005	.011	.020	.031	.044	.079	.123			
		Throw	2	5	9	13	16	19	25	27	Throw		1	3	4	6	7	9	12	15			
4' Length 10" Inlet	Horizontal	CFM	100	160	240	320	400	480	640	800	4' Length 12" Inlet	Horizontal	CFM	100	160	240	320	400	480	640	800		
		PS	.008	.021	.048	.085	.133	.191	.339	.530			PS	.002	.006	.014	.025	.040	.057	.102	.159		
		Throw	15	21	26	30	34	37	43	48			Throw	7	11	16	22	27	32	42	48		
	Vertical	NC	<10	<10	15	21	26	30	37	43		NC	<10	<10	<10	14	18	22	30	36			
		PS	.006	.016	.036	.065	.101	.145	.258	.403		PS	.002	.005	.011	.019	.030	.044	.077	.121			
		Throw	7	13	19	25	27	30	35	39		Throw	2	4	6	9	11	13	17	22			
Vertical	NC	<10	<10	11	21	29	36	44	50	NC	<10	<10	<10	<10	<10	13	19	23					

Model PHPS-6, PHPSI-6 Four Slot

		CFM/LF	50	75	80	100	150	175	200	250			CFM/LF	50	75	80	100	150	175	200	250		
1/2" Slot Width	2' Length 8" Inlet	Horizontal	CFM	100	150	160	200	300	350	400	500	1" Slot Width	2' Length 10" Inlet	Horizontal	CFM	100	150	160	200	300	350	400	500
			PS	.033	.074	.084	.131	.295	.401	.524	.819				PS	.017	.039	.045	.070	.157	.213	.279	.435
			Throw	16	20	21	23	28	30	33	36				Throw	16	20	21	23	28	30	33	36
		Vertical	NC	<10	15	17	23	35	39	42	48			NC	<10	<10	<10	16	29	33	36	41	
			PS	.029	.066	.075	.117	.262	.357	.466	.729			PS	.017	.037	.042	.066	.149	.203	.265	.414	
			Throw	8	12	12	16	20	21	23	25			Throw	6	9	9	11	17	20	23	25	
	4' Length 10" Inlet	Horizontal	CFM	200	300	320	400	600	700	800	1000		4' Length 10" Inlet	Horizontal	CFM	200	300	320	400	600	700	800	1000
			PS	.032	.072	.082	.129	.289	.394	.514	.803				PS	.017	.038	.044	.068	.154	.209	.273	.427
			Throw	23	28	29	33	40	43	46	51				Throw	23	28	29	33	40	43	46	51
		Vertical	NC	<10	18	20	26	38	42	45	51			NC	<10	11	13	19	32	36	39	44	
			PS	.029	.064	.073	.114	.257	.350	.457	.714			PS	.016	.037	.042	.065	.148	.199	.260	.406	
			Throw	11	16	17	22	28	30	32	36			Throw	9	13	14	18	27	30	32	36	
3/4" Slot Width	2' Length 8" Inlet	Horizontal	CFM	100	150	160	200	300	350	400	500	1-1/2" Slot Width	2' Length 10" Inlet	Horizontal	CFM	100	150	160	200	300	350	400	500
			PS	.025	.057	.065	.101	.228	.311	.406	.634				PS	.016	.037	.042	.066	.148	.202	.264	.412
			Throw	16	20	21	23	28	30	33	36				Throw	16	20	21	23	28	30	33	36
	Vertical	NC	<10	<10	<10	18	29	33	36	42	NC		<10	<10	<10	10	19	23	27	33			
		PS	.25	.057	.065	.101	.227	.310	.404	.632	PS		.012	.028	.032	.050	.112	.152	.198	.310			
		Throw	5	10	11	13	20	21	23	25	Throw		16	20	21	23	28	30	33	36			
4' Length 10" Inlet	Horizontal	CFM	200	300	320	400	600	700	800	1000	4' Length 12" Inlet	Horizontal	CFM	200	300	320	400	600	700	800	1000		
		PS	.025	.056	.064	.099	.224	.305	.398	.622			PS	.016	.036	.041	.065	.145	.198	.258	.404		
		Throw	23	28	29	33	40	43	46	51			Throw	21	28	29	33	40	43	46	51		
	Vertical	NC	<10	14	15	21	32	36	39	45		NC	<10	<10	<10	13	22	26	30	36			
		PS	.025	.056	.063	.099	.223	.304	.396	.620		PS	.012	.027	.031	.049	.109	.149	.194	.304			
		Throw	13	20	20	23	28	30	32	36		Throw	4	6	7	9	13	15	17	22			
Vertical	NC	<10	10	12	19	32	36	40	44	NC	<10	<10	<10	10	15	20	24	30					

Performance Notes:

- All units have been tested in accordance with ANSI / ASHRAE 70-2006. Data in table is derived from such testing.
- Ps – Static pressure required to obtain listed cfm, units of inches water gauge (in. wg.).
- NC – Calculated noise criteria using 10 dB per octave room attenuation (dimensionless).
- Throw – Non-isothermal throw, in feet, for a terminal velocity of 50 fpm. Throw are listed in one-way direction.
- Two-way throw can be determine by dividing the supply air volume equally in each direction and use the one-way throw values listed.



Model 7305-6, 7500-6 Perforated Face With 4 Deflectors

Neck Size	Inlet Velocity	300	400	500	600	700	800	1000	
6"	CFM	60	80	100	115	135	155	195	
	Ps	.006	.012	.018	.022	.031	.043	.069	
	NC	<	<	<	20	24	31		
	Throw	4-W	3	4	4	5	6	7	8
		3-W	3	4	5	6	6	8	8
		2-W	4	5	5	6	7	9	9
		1-W	5	5	6	7	8	9	10
	8"	CFM	105	140	175	210	246	28	350
		Ps	.011	.021	.032	.047	.064	.084	.133
		NC	<	<	<	21	26	30	36
Throw		4-W	3	5	5	6	8	10	11
		3-W	3	5	5	6	8	11	12
		2-W	4	6	6	7	9	12	13
		1-W	5	6	7	8	10	13	14
10"		CFM	165	220	270	325	380	435	545
		Ps	.014	.025	.037	.054	.075	.098	.156
		NC	<	<	22	28	33	37	43
	Throw	4-W	4	5	6	7	8	10	12
		3-W	4	6	7	8	9	12	13
		2-W	5	6	8	8	10	14	15
		1-W	6	7	9	10	11	14	16
	12"	CFM	235	315	390	470	550	630	785
		Ps	.026	.049	.074	.108	.149	.196	.305
		NC	<	<	25	29	35	40	46
Throw		4-W	4	8	8	10	11	12	14
		3-W	5	8	9	11	13	14	15
		2-W	6	9	11	12	13	15	16
		1-W	8	9	12	13	14	16	18
14"		CFM	320	425	535	640	750	855	1070
		Ps	.033	.058	.092	.133	.182	.237	.373
		NC	<	23	29	34	39	44	50
	Throw	4-W	6	8	11	13	14	15	17
		3-W	7	9	12	14	16	17	18
		2-W	8	10	13	15	17	18	19
		1-W	9	11	14	16	18	19	20

Model 7600-6 Perforated Face With Curved Blades, Deflectors

Neck Size	Inlet Velocity	300	400	500	600	700	800	1000	1200	
6"	CFM	60	80	100	120	135	155	195	235	
	Ps	.009	.016	.025	.038	.044	.059	.095	0.139	
	NC	<	<	<15	19	23	26	30	35	
	Throw	4-W	5	6	6	7	7	8	9	10
		3-W	5	6	7	7	8	9	10	10
		2-W	5	7	8	8	9	10	11	12
		1-W	9	11	12	13	14	15	17	18
	8"	CFM	105	140	175	210	245	280	350	420
		Ps	.010	.018	.028	.041	.055	.072	.113	.162
		NC	<	<	<15	19	24	27	31	37
Throw		4-W	6	7	8	9	10	10	12	13
		3-W	7	8	9	10	11	11	13	14
		2-W	7	9	10	11	12	13	14	16
		1-W	12	14	16	17	19	20	22	24
10"		CFM	165	220	275	325	380	435	545	655
		Ps	.011	.020	.031	.044	.059	.078	.124	.178
		NC	<	<	<15	20	25	29	34	39
	Throw	4-W	8	9	10	11	12	13	15	16
		3-W	8	10	11	12	13	14	16	18
		2-W	9	11	13	14	15	16	18	20
		1-W	15	18	20	21	23	25	28	30
	12"	CFM	235	315	395	470	550	630	785	940
		Ps	.012	.023	.036	.052	.070	.093	.144	.205
		NC	<	<15	15	22	27	31	36	42
Throw		4-W	9	11	12	13	15	16	17	19
		3-W	10	12	14	15	16	17	19	21
		2-W	11	14	15	17	18	19	21	23
		1-W	18	21	24	26	28	30	33	36
14"		CFM	320	430	535	640	750	855	1070	1285
		Ps	.011	.021	.032	.046	.063	.082	.129	.186
		NC	<	<15	16	24	29	33	38	44
	Throw	4-W	12	15	16	18	19	21	23	25
		3-W	13	16	18	20	21	23	26	28
		2-W	14	18	20	22	24	26	29	31
		1-W	24	28	31	34	37	40	44	49

Model 7300-6 Perforated Face With Target Disc

Neck Size	Inlet Velocity	200	300	400	500	600	700	800	900	1000
6"	CFM	40	60	80	100	115	135	155	175	196
	Ps	.002	.003	.006	.011	.013	.019	.026	.028	.043
	Throw	1	1	4	4	5	6	7	8	10
	NC	<	<	<	22	26	30	35	38	
	CFM	70	105	140	175	210	245	280	315	350
8"	Ps	.004	.007	.016	.021	.032	.043	.056	.071	.088
	Throw	2	3	5	5	6	8	10	11	12
	NC	<	<	<	20	23	26	30	34	38
	CFM	110	160	215	270	325	380	435	490	545
	Ps	.006	.012	.023	.036	.053	.081	.95	.121	.160
10"	Throw	3	4	5	6	7	8	10	12	14
	NC	<	<	20	23	26	29	34	38	41
	CFM	155	235	315	390	470	550	630	705	785
	Ps	.007	.015	.029	.043	.064	.088	.115	.144	.178
	Throw	4	5	7	9	11	13	14	18	21
12"	NC	<	20	24	27	30	34	38	42	45
	CFM	210	320	425	535	640	750	855	960	1070
	Ps	.008	.016	.029	.047	.069	.094	.122	.160	.191
	Throw	6	9	11	13	16	18	23	27	32
	NC	<	20	24	28	32	36	40	45	48
15"	CFM	245	370	490	610	735	860	980	1105	1225
	Ps	.013	.028	.050	.077	.113	.155	.200	.255	.313
	Throw	9	11	13	16	18	23	27	32	33
	NC	<	23	28	33	38	43	48	53	55

Model 7300R-6, 7500R-6, 7600R-6, 7550R-6 Perforated Face Return Units

Neck Size	Inlet Velocity	300	400	500	600	700	800	900	1000
6"	CFM	60	80	100	115	135	155	175	195
	Ps	-.01	-.02	-.03	-.04	-.05	-.06	-.08	-.10
8"	CFM	105	140	175	210	245	280	315	350
10"	CFM	165	220	270	325	380	435	490	545
12"	CFM	235	315	390	470	550	630	705	785
14"	CFM	320	425	535	640	750	855	930	1070
15"	CFM	369	492	615	738	861	984	1107	1203

Model SPRTB, SPR20F, SPRFB Perforated Face Return Units

Neck Size	Inlet Velocity	200	300	400	500	600	700	800
12x12	CFM	170	250	335	420	505	590	670
	NC	<	<	<	20	25	30	35
24x12	CFM	350	525	700	875	1050	1225	1400
	NC	<	<	20	25	30	35	40
24x24	CFM	735	1100	1470	1835	2200	2570	2935
	NC	<	<	20	28	33	38	42
48x12	CFM	735	1100	1470	1835	2200	2570	2935
	NC	<	<	20	28	33	38	42
48x24	CFM	1500	2250	3000	3750	4500	5250	6000
	NC	<	20	28	33	38	42	45

Performance Notes:

1. All units have been tested in accordance with ANSI / ASHRAE 70-2006. Data in table is derived from such testing.
2. Ps – Static pressure required to obtain listed cfm, units of inches water gauge (in. wg.).
3. NC – Calculated noise criteria using 10 dB per octave room attenuation (dimensionless).
4. Throw – Non-isothermal throw, in feet, for a terminal velocity of 50 fpm.
5. Inlet Velocity = fpm (feet per minute).

Model 4900 Square Necks (S4) 4 Way Square Pattern

Neck Size Area Ak	Ps Pt	Neck Velocity					
		200	300	400	500	600	700
		.006	.013	.022	.035	.050	.068
6" X 6" A=.25 Ak=.145	Total CFM	52	76	100	124	152	176
	CFM/Side	13	19	25	31	38	44
	Throw	2-4	4-8	7-11	9-13	11-16	13-17
	NC	<15	<15	<15	15	20	25
9" X 9" A=.563 Ak=.325	Total CFM	112	168	224	280	336	392
	CFM/Side	28	42	56	70	84	98
	Throw	3-5	5-9	8-12	10-15	12-17	14-18
	NC	<15	<15	15	21	26	31
12" X 12" A=1.000 Ak=.578	Total CFM	200	300	400	500	600	700
	CFM/Side	50	75	100	125	150	175
	Throw	3-7	6-10	9-14	11-16	13-18	15-20
	NC	<15	<15	19	24	29	34
15" X 15" A=1.563 Ak=.903	Total CFM	312	468	624	780	936	1092
	CFM/Side	78	117	156	195	234	273
	Throw	4-8	7-12	10-15	12-18	15-20	17-22
	NC	<15	15	21	26	31	36
18" X 18" A=2.25 Ak=1.301	Total CFM	452	676	900	1124	1352	1576
	CFM/Side	113	169	225	281	338	394
	Throw	5-10	8-14	11-17	14-20	16-22	18-23
	NC	<15	17	22	27	32	37
21" X 21" A=3.063 Ak=1.77	Total CFM	612	920	1224	1532	1836	2144
	CFM/Side	153	230	306	383	459	536
	Throw	6-12	9-16	12-19	15-21	17-23	19-25
	NC	<15	18	23	28	33	38
24" X 24" A=4.000 Ak=2.312	Total CFM	800	1200	1600	2000	2400	2800
	CFM/Side	200	300	400	500	600	700
	Throw	7-14	10-17	13-20	16-23	18-25	21-27
	NC	<15	19	24	29	34	39



(S3) 3 Way Square Pattern

Neck Size Area Ak	Ps Pt	Neck Velocity					
		200	300	400	500	600	700
		.006	.013	.022	.035	.050	.068
6" X 6" A=.25 Ak=.145	Total CFM	51	75	99	123	153	177
	CFM/Side	17	25	33	41	51	59
	Throw	2-4	4-8	7-11	9-13	11-16	13-17
	NC	<15	<15	<15	15	20	25
9" X 9" A=.563 Ak=.304	Total CFM	111	168	225	279	336	393
	CFM/Side	37	56	75	93	112	131
	Throw	3-5	5-9	8-12	10-15	12-17	14-18
	NC	<15	<15	15	21	26	31
12" X 12" A=1.000 Ak=.541	Total CFM	201	300	399	501	600	699
	CFM/Side	67	100	133	167	200	233
	Throw	3-7	6-10	9-14	11-16	13-18	15-20
	NC	<15	<15	19	24	29	34
15" X 15" A=1.563 Ak=.845	Total CFM	312	468	624	780	936	1092
	CFM/Side	104	156	208	260	312	364
	Throw	4-8	7-12	10-15	12-18	15-20	17-22
	NC	<15	15	21	26	31	36
18" X 18" A=2.25 Ak=1.216	Total CFM	453	675	900	1125	1353	1575
	CFM/Side	151	225	300	375	451	525
	Throw	5-10	8-14	11-17	14-20	16-22	18-23
	NC	<15	17	22	27	32	37
21" X 21" A=3.063 Ak=1.655	Total CFM	612	921	1224	1533	1836	2145
	CFM/Side	204	307	408	511	612	715
	Throw	6-12	9-16	12-19	15-21	17-23	19-25
	NC	<15	18	23	28	33	38
24" X 24" A=4.000 Ak=2.162	Total CFM	801	1200	1599	2001	2400	2799
	CFM/Side	267	400	533	667	800	933
	Throw	7-14	10-17	13-20	16-23	18-25	21-27
	NC	<15	19	24	29	34	39

(S2) 2 Way Opposite / (SC) 2 Way Adjacent Square Pattern

Neck Size Area Ak	Ps Pt	Neck Velocity					
		200	300	400	500	600	700
		.006	.013	.022	.035	.050	.068
6" X 6" A=.25 Ak=.132	Total CFM	52	76	100	124	152	176
	CFM/Side	26	38	50	62	76	88
	Throw	2-5	5-9	8-12	10-14	12-17	14-18
	NC	<15	<15	<15	15	20	25
9" X 9" A=.563 Ak=.298	Total CFM	112	168	224	280	336	392
	CFM/Side	56	84	112	140	168	196
	Throw	3-7	6-11	9-14	12-17	14-19	16-20
	NC	<15	<15	16	21	26	31
12" X 12" A=1.000 Ak=.529	Total CFM	200	300	400	500	600	700
	CFM/Side	100	150	200	250	300	350
	Throw	5-10	8-13	11-16	13-19	15-21	17-23
	NC	<15	15	20	24	29	34
15" X 15" A=1.563 Ak=.827	Total CFM	312	468	624	780	936	1092
	CFM/Side	156	234	312	390	468	546
	Throw	6-12	9-16	12-19	15-21	17-24	19-25
	NC	<15	15	21	26	31	36
18" X 18" A=2.25 Ak=1.190	Total CFM	452	676	900	1124	1352	1576
	CFM/Side	226	338	450	562	676	788
	Throw	7-14	10-18	14-21	17-24	19-26	21-28
	NC	<15	19	22	27	32	37
21" X 21" A=3.063 Ak=1.620	Total CFM	612	920	1224	1532	1836	2144
	CFM/Side	306	460	612	766	918	1072
	Throw	8-17	12-20	15-23	18-26	21-28	23-30
	NC	17	20	23	28	33	38
24" X 24" A=4.000 Ak=2.116	Total CFM	800	1200	1600	2000	2400	2800
	CFM/Side	400	600	800	1000	1200	1400
	Throw	9-18	13-22	16-25	19-28	22-30	24-30
	NC	18	20	24	29	34	39



(S1) 1 Way Square Pattern

Neck Size Area Ak	Ps Pt	Neck Velocity					
		200	300	400	500	600	700
		.006	.013	.022	.035	.050	.068
6" X 6" A=.25 Ak=.122	Total CFM	50	75	100	125	150	175
	Throw	3-7	6-10	9-14	11-16	13-18	15-20
	NC	<15	<15	<15	15	20	25
9" X 9" A=.563 Ak=.275	Total CFM	113	169	225	281	338	394
	Throw	5-10	8-14	11-17	14-20	16-22	18-23
	NC	<15	<15	15	21	26	31
12" X 12" A=1.000 Ak=.541	Total CFM	201	300	399	501	600	699
	CFM/Side	67	100	133	167	200	233
	Throw	3-7	6-10	9-14	11-16	13-18	15-20
	NC	<15	<15	19	24	29	34
15" X 15" A=1.563 Ak=.845	Total CFM	312	468	624	780	936	1092
	CFM/Side	104	156	208	260	312	364
	Throw	4-8	7-12	10-15	12-18	15-20	17-22
	NC	<15	15	21	26	31	36
18" X 18" A=2.25 Ak=1.216	Total CFM	453	675	900	1125	1353	1575
	CFM/Side	151	225	300	375	451	525
	Throw	5-10	8-14	11-17	14-20	16-22	18-23
	NC	<15	17	22	27	32	37
21" X 21" A=3.063 Ak=1.655	Total CFM	612	921	1224	1533	1836	2145
	CFM/Side	204	307	408	511	612	715
	Throw	6-12	9-16	12-19	15-21	17-23	19-25
	NC	<15	18	23	28	33	38
24" X 24" A=4.000 Ak=2.162	Total CFM	801	1200	1599	2001	2400	2799
	CFM/Side	267	400	533	667	800	933
	Throw	7-14	10-17	13-20	16-23	18-25	21-27
	NC	<15	19	24	29	34	39

Performance for rectangular neck units go to usaire.com

Performance Notes:

1. Ps – Static Pressure = Pt-Pv (Inches of water column).
2. Pt – Total Pressure (Inches of water column).
3. Throw – Horizontal distances in feet to the terminal velocities of 150–50 fpm with ambient supply air temperature
4. fpm – Velocity of air stream in feet per minute

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