

GRILLES REGISTERS DIFFUSERS

RESIDENTIAL & COMMERCIAL



RUNNER
INSIDE
MY HOME



RUNNER INSIDE MY HOME

TOTAL SOLUTION PROVIDER FOR GRILLES, REGISTERS & DIFFUSERS

Brand Promise

We are partners!

Our Mission

Providing competitive product solutions and service, creating the best value for customers.

Business Policy

To assist customers to success, never compete with partners.

Strategic Core Value

To be the one-stop service and total solution provider.

ALWAYS NINGBO RUNNER

RELIABILITY HAS NO EXPIRY DATE

RUNNER

EFFICIENCY
AND QUALITY

Ningbo Runner Industrial Corporation, established in 2002, is a subsidiary company of Runner Group. We have dedicated ourselves to being a leading suppliers of household products. Today we are a comprehensive manufacturer integrating marketing, research, design and production, centrally located in Ningbo, occupying 140,000m² of manufacture and warehouse space.

Depending on our high-efficient manufacturing capability of metal stamping, injection molding, die casting and surface treatment, we have been a leading manufacturer in China, with products covering North America, Europe, Middle East and

South America. Meanwhile, we have established strategic cooperation with world-class retailers, wholesalers and distributors, and highly recognized by the international brands. Now, our GRDs product line including residential series, commercial series, decorative series and T-bars.

The success of Ningbo Runner depends on the efforts of every employees and the cooperation with our suppliers. Our value of treating each other with respect and dignity enable us to work closely as a team to achieve our goal of providing the highest quality products and service in the industry.





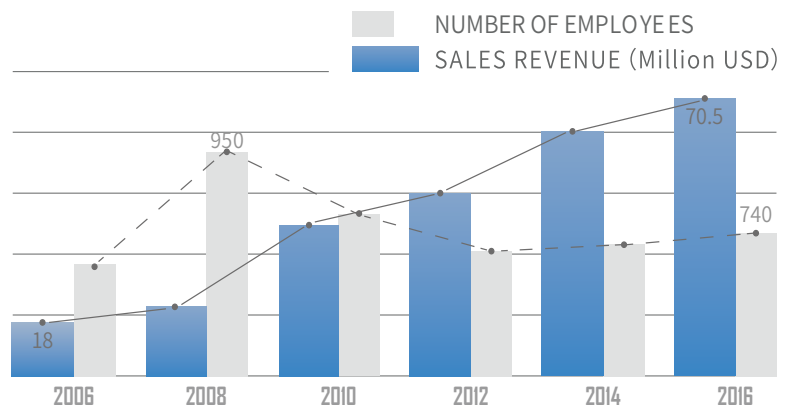
WHAT'S BEHIND OUR QUALITY AND EFFICIENCY?

LEAN MANUFACTURING

365 Days of Continuous Operation

18,000 +
(thousand pcs)
production

We have integrated the whole production processes with our high-efficient manufacturing capability, especially the technology of eco-friendly surface treatment, automated injection molding, metal stamping and die casting. Also, we have implemented RPS management system and fool-proofing production to realize the production mode without waste, detention or stock.



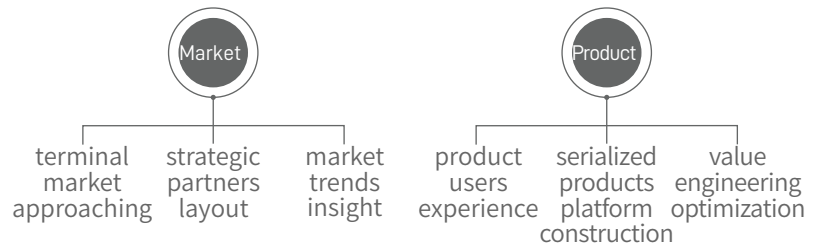
MARKET & PRODUCT

Researchers with Expertise

100 +

professional engineers

Our highly qualified market and product teams are always concentrating on new technologies breakthrough and commercialization. After intensive research, we can customize different product planning to satisfy customers requirement, and help them catch market chances.



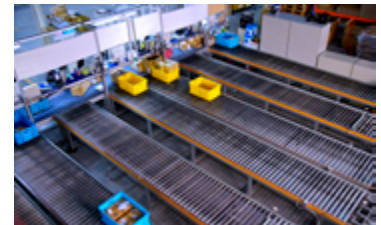
SUPPLY CHAIN

Strategic Collaboration System

10,000 +m²

large distribution center

We are always focus on the optimization of supply chain and logistics, so as to ensure effective communication and intelligent response to customers. Furthermore, we have a large distribution center that can provide diversified goods collection, combining and distribution service, which can effectively reduce our customers logistics cost.



VMI

flexible inventory
management

Firstly, with continuous E-Flow optimization, we gradually standardize our all management and operation processes, especially improving our work efficiency and information traceability. Secondly, we apply the IPD mode to reduce cost and improve quality. Thirdly, we pay attention on training plan to inspire our employees.

MANAGEMENT

To Be More Standard and Efficient

HOW DOES A PRODUCT PROVE ITS QUALITY?



Design and Function

- Low-profile Damper Control: Attractive space-saving switch operates easily.
- No Sharp Edges: Precision stamping and hand-finishing ensure that each register would have a smooth surface.
- Superior Finish: Attention to details such as invisible welding spots and seams creates a strong and attractive finished product.

Quality assurance as it should be

- Engineered & Tested: Runner registers are engineered and tested to the industry's highest standards.
- Hand Inspection: Each part is individually inspected for quality before it is packaged.
- Protective Package: Quality shrink wrapping with cardboard backing prevents damage in shipping and on the shelves.

DURABLE SOLUTIONS THAT ARE GUARANTEED THROUGHOUT THEIR LIFE CYCLE.

Engineered for a Lifetime

- Dual Paint Coatings: Electro-coating and powder-coating provide excellent coverage, durability, superior corrosion-resistance, and flawless appearance.
- Heavy Gauge Steel: The resilient quality and commercial grade strength of this material ensure outstanding product performance.
- Smooth Operation: Stringent assembly and quality control procedures provide outstanding operation every time.



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RESIDENTIAL

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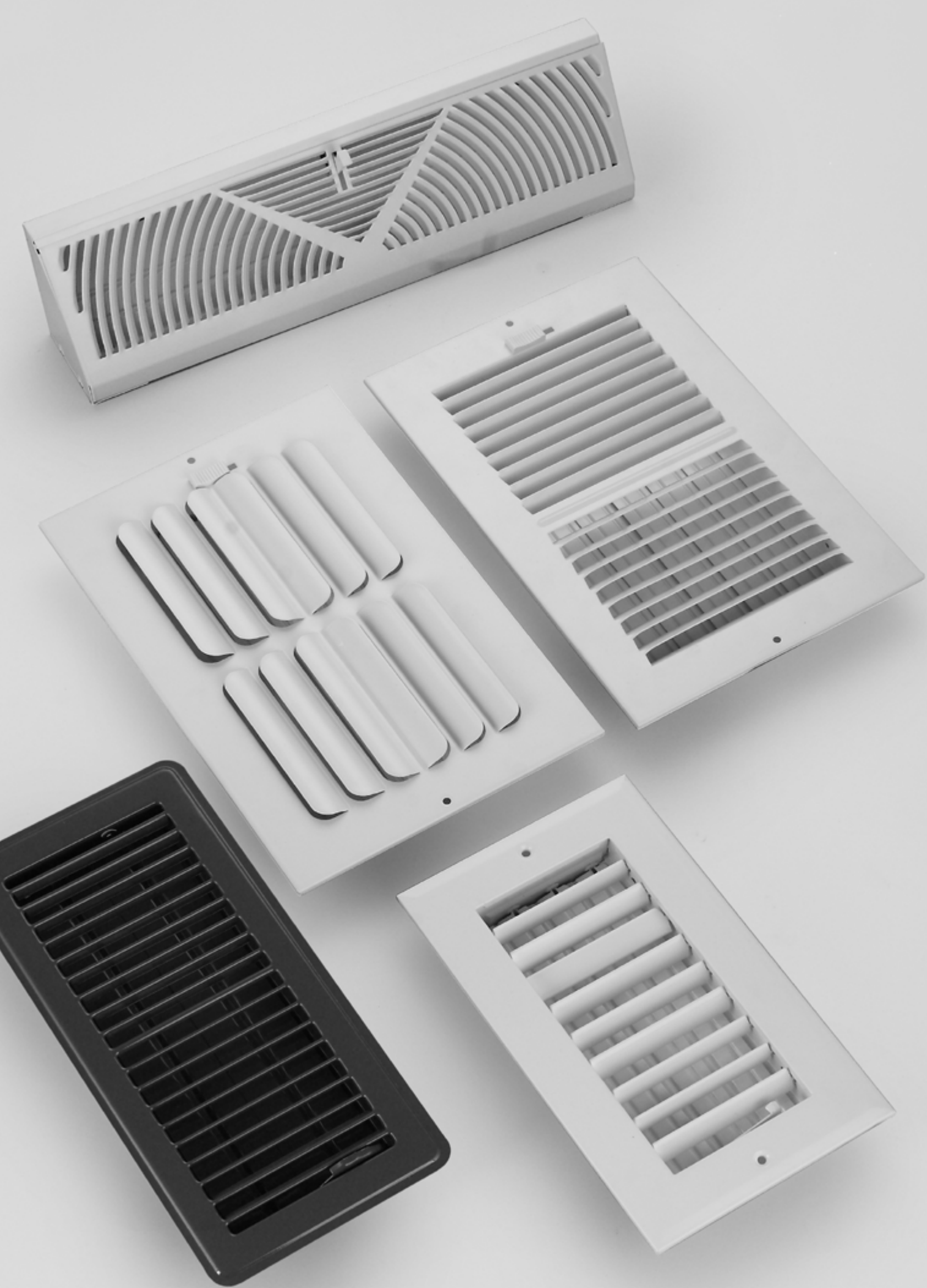
- 16 Steel Curved-Blade Sidewall/Ceiling Register
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40 Accessories

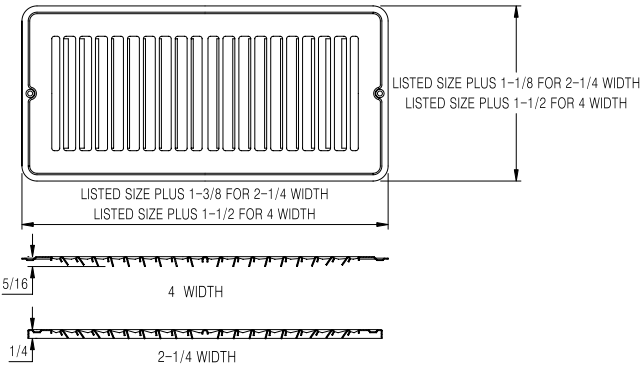
- 40 Air Deflector



RESIDENTIAL

Floor Registers and Grilles

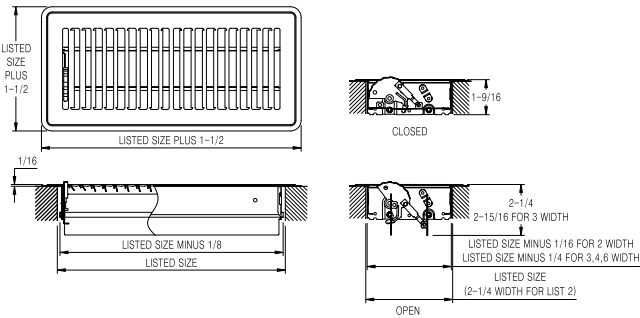
Toe Space Grille
301201



- Steel construction
- Stamped faceplate
- Multi-angle rolled fins
- Matching color screws included
- Dual-coating
- Available Finish: White and Brown

301201 Available Sizes (In.)				
W \ L	10	12	14	
2	●	●	●	
4	●	●	●	

Floor Register
301103



- Steel construction
- Stamped faceplate
- Welded construction
- Multi-angle rolled fins
- Opposed blade damper
- Foot-operated dial control
- Dual-coating
- Available finish: White and Brown

301103 Available Sizes (In.)				
W \ L	8	10	12	14
2		●	●	●
3		●		
4	●	●	●	●
6	●	●	●	●

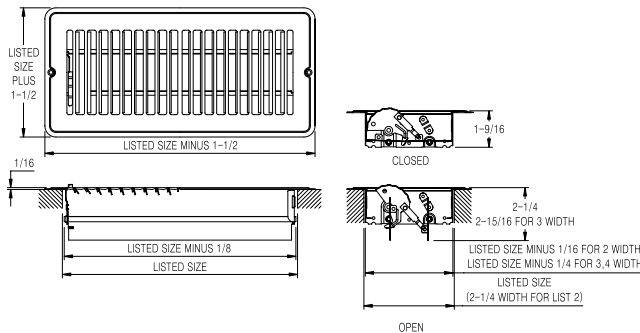
Floor Registers and Grilles

MH/RV Floor Register

301104



- Steel construction
- Stamped faceplate
- Welded construction
- Multi-angle rolled fins
- Opposed blade damper
- Foot-operated dial control
- Dual-coating
- Available finish: White and Brown
- Matching color screws included



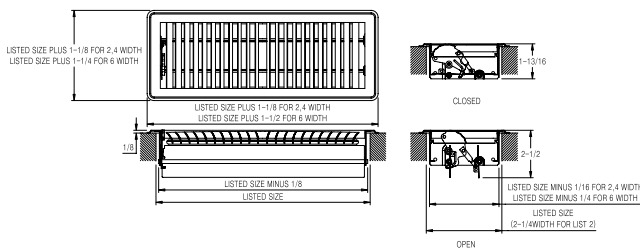
301104 Available Sizes (In.)				
L \ W	10	12	14	
2	●	●	●	
3	●			
4	●	●		

Deluxe Floor Register

301101



- Heavy gauge steel construction
- Rigid individually welded diffusion vanes
- Multi-angle fin setting
- Opposed blade damper
- Foot-operated dial control
- Can be used in high traffic areas
- Dual-coating
- Available finish: White and Brown

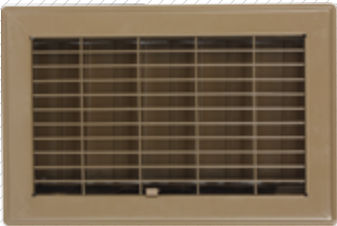


301101 Available Sizes (In.)				
L \ W	10	12	14	
2	●	●	●	
4	●	●	●	
6	●	●	●	

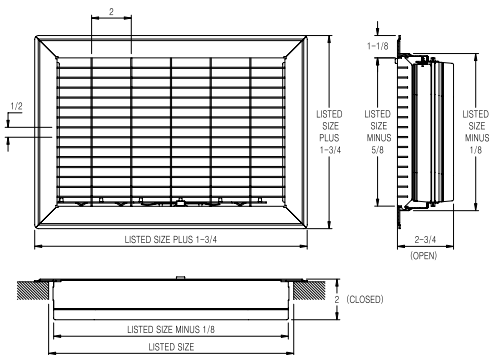
RESIDENTIAL

Floor Registers and Grilles

Floor Register
301102



- Heavy gauge steel construction
- Rigid faceplate provides firm surface
- Smooth operating multi-shutter damper
- Toe-operated valve control
- Dual-coating
- Available finish: Brown

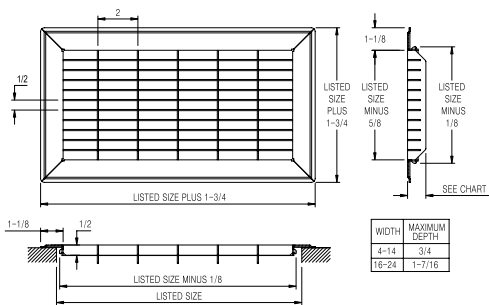


301102 Available Sizes (In.)						
W \ L	6	8	10	12	14	16
4		•	•	•	•	•
6	•	•	•	•	•	•
8		•	•	•	•	
9				•		
10			•	•	•	
12				•	•	

Floor Return Air Grille
301202



- Heavy gauge steel construction
- Rigid faceplate provides firm surface
- Dual-coating
- Available finish: Brown



301202 Available Sizes (In.)														
W \ L	6	8	10	12	14	16	18	20	24	25	26	30	36	
4		•	•	•	•	•	•	•	•			•		
6	•	•	•	•	•	•	•	•	•			•	•	
8		•	•	•	•	•	•	•	•			•		
9			•											
10		•	•	•	•	•	•	•	•			•		
12			•	•	•	•	•	•	•			•		
14				•	•			•	•			•		
16					•			•	•			•		
18						•			•			•		
20							•	•	•	•	•	•		
24									•			•	•	

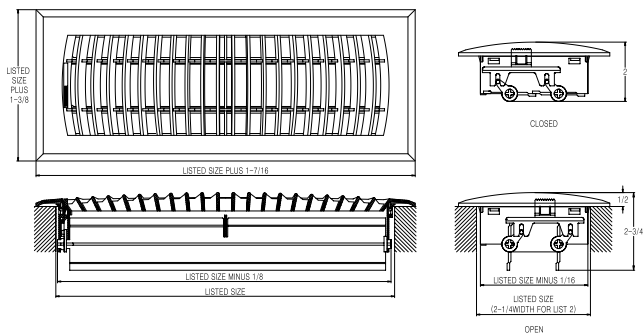
Floor Registers and Grilles

Plastic Louvered Floor Register

301401



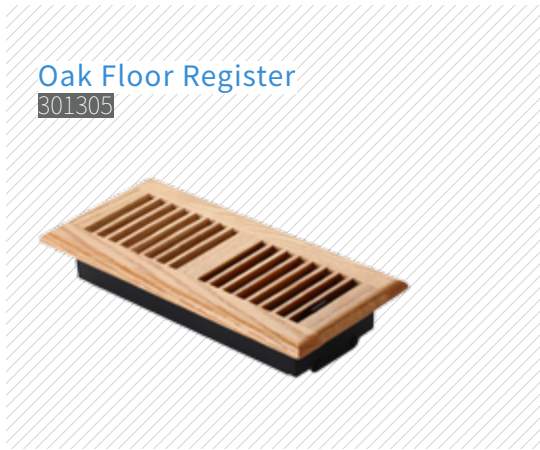
- Solid ABS construction
- Multi-angle fins for air distribution
- Corrosion-resistant
- Foot operated, rustproof multi-louvered damper
- Available finish: White, Taupe



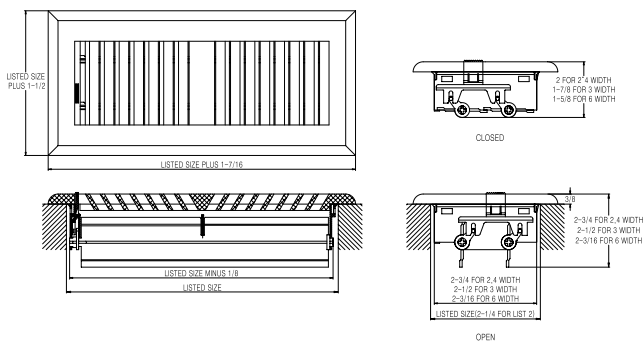
301401 Available Sizes (In.)			
W \ L	8	10	12
2			●
3		●	
4	●	●	●

Oak Floor Register

301305



- Solid oak construction
- Louvered design
- Protective coating
- Rustproof multi-louvered damper
- Available finish: Natural, Light Oak, Medium Oak or other customized



301305 Available Sizes (In.)			
W \ L	10	12	14
2	●	●	●
3	●		
4	●	●	●
6			●

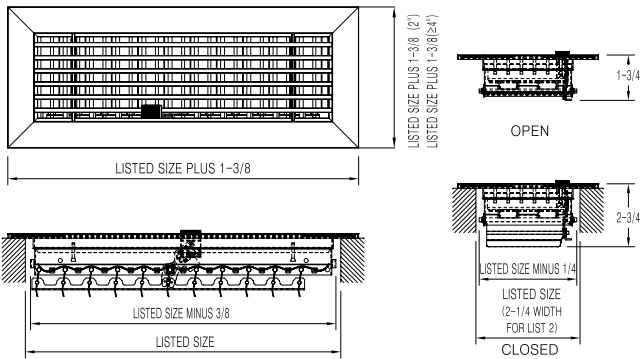
RESIDENTIAL

Floor Registers and Grilles

Vertical Aluminum Floor Diffuser
404102



- Extruded aluminum construction
- Corrosion-resistant, high strength
- Heavy cross-bracing at strategic intervals
- Multi-shutter for adjustable air pattern
- Nylon slide valve operators
- Durable coating or satin-anodized
- Available finish: White, Brown, Grey or customized

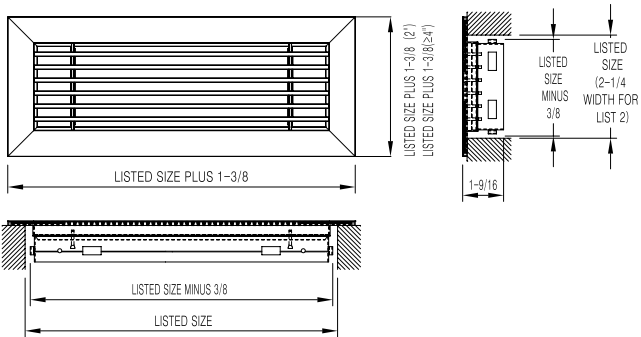


404102 Available Sizes (In.)			
W \ L	10	12	14
2	●	●	●
4	●	●	●
6	●	●	●

Vertical Aluminum Return Grille
404103



- Extruded aluminum construction
- Corrosion-resistant, high strength
- Heavy cross-bracing at strategic intervals
- For floor application
- Durable coating or satin-anodized
- Available finish: White, Brown, Grey or customized



404103 Available Sizes (In.)			
W \ L	10	12	14
2	●	●	●
4	●	●	●
6	●	●	●

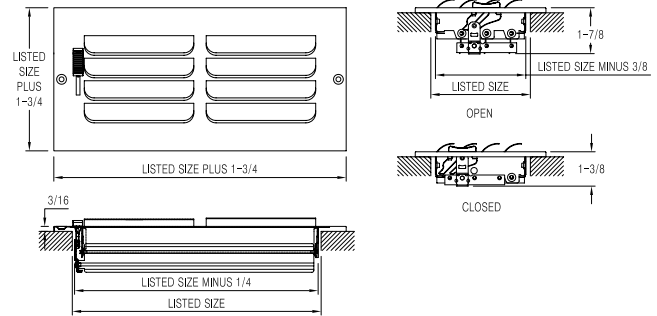
Sidewall/Ceiling Registers and Grilles

Steel Curved-Blade Register 1-Way

302101



- All steel construction
- Curved blade
- One-piece stamped face construction
- One-way air deflection
- Multi-shutter damper
- Double valves for listed height 10" and larger
- Dual-coating
- Available finish: White



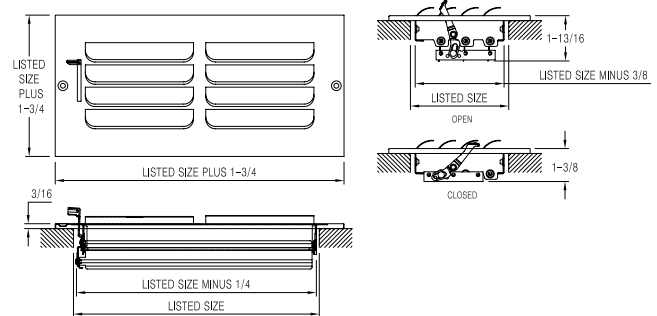
		302101 Available Sizes (In.)					
H	W	6	8	10	12	14	16
			•	•	•	•	
6		•		•	•	•	•
8			•	•	•	•	
12					•		

Steel Curved-Blade Register 1-Way - Metal Lever

302116



- All steel construction
- Metal lever damper operator
- Curved blade
- One-piece stamped face construction
- One-way air deflection
- Multi-shutter damper
- Dual-coating
- Available finish: White



		302116 Available Sizes (In.)			
H	W	8	10	12	14
		•	•		
4			•	•	•
6			•	•	•

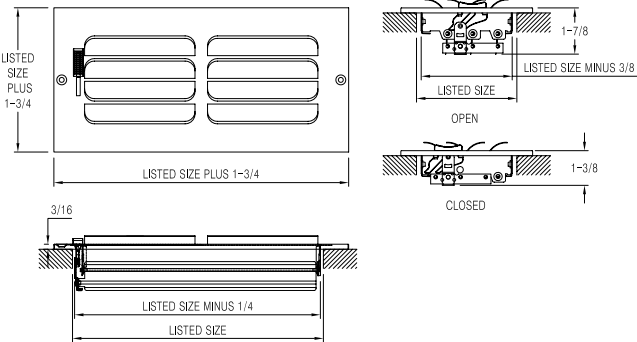
RESIDENTIAL

Sidewall/Ceiling Registers and Grilles

Steel Curved-Blade Register
2-Way
302102



- All steel construction
- Curved blade
- One-piece stamped face construction
- Two-way air deflection
- Multi-shutter damper
- Double valves for listed height 10" and larger
- Dual-coating
- Available finish: White

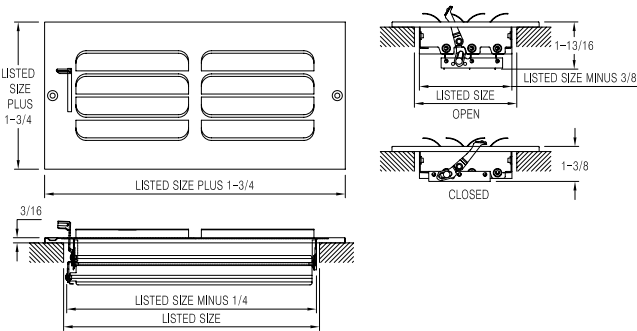


302102 Available Sizes (In.)				
H \ W	8	10	12	14
4	●			
6		●	●	
8			●	●
10		●		
12			●	

Steel Curved-Blade Register
2-Way - Metal Lever
302117



- All steel construction
- Metal lever damper operator
- Curved blade
- One-piece stamped face construction
- Two-way air deflection
- Multi-shutter damper
- Dual-coating
- Available finish: White



302117 Available Sizes (In.)				
H \ W	8	10	12	14
4	●	●		
6		●	●	●
8		●	●	●

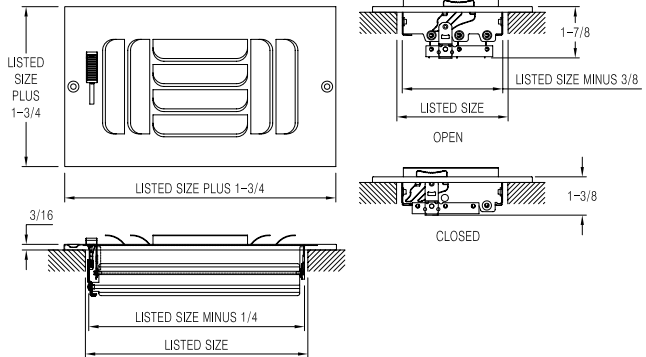
Sidewall/Ceiling Registers and Grilles

Steel Curved-Blade Register 3-Way

302103



- All steel construction
- Curved blade
- One-piece stamped face construction
- Three-way air deflection
- Multi-shutter damper
- Double valves for listed height 10" and larger
- Dual-coating
- Available finish: White



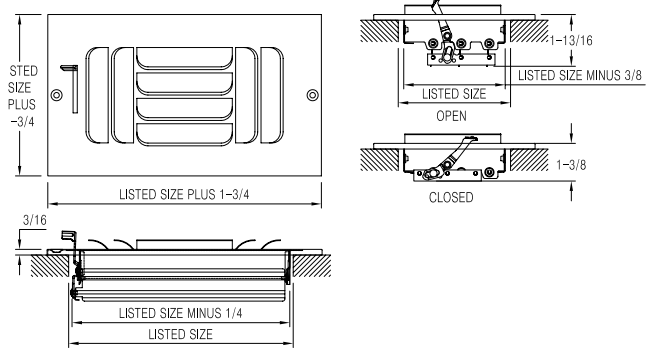
		302103 Available Sizes (In.)					
H	W	6	8	10	12	14	16
			•	•	•	•	
4			•	•	•	•	
6		•	•	•	•	•	•
8			•	•	•	•	
10				•			
12					•		

Steel Curved-Blade Register 3-Way - Metal Lever

302118



- All steel construction
- Metal lever damper operator
- Curved blade
- One-piece stamped face construction
- Three-way air deflection
- Multi-shutter damper
- Double valves for listed height 10" and larger
- Dual-coating
- Available finish: White



		302118 Available Sizes (In.)				
H	W	6	8	10	12	14
			•	•		
4			•	•		
6		•	•	•	•	•
8			•	•	•	•
10				•		
12					•	

RESIDENTIAL

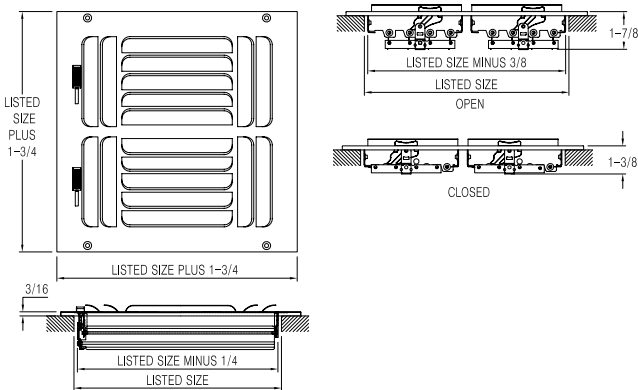
Sidewall/Ceiling Registers and Grilles

Steel Curved-Blade Register 4-Way

302104



- All steel construction
- Curved blade
- One-piece stamped face construction
- Four-way air deflection
- Multi-shutter damper
- Double valves for listed height 10" and larger
- Dual-coating
- Available finish: White



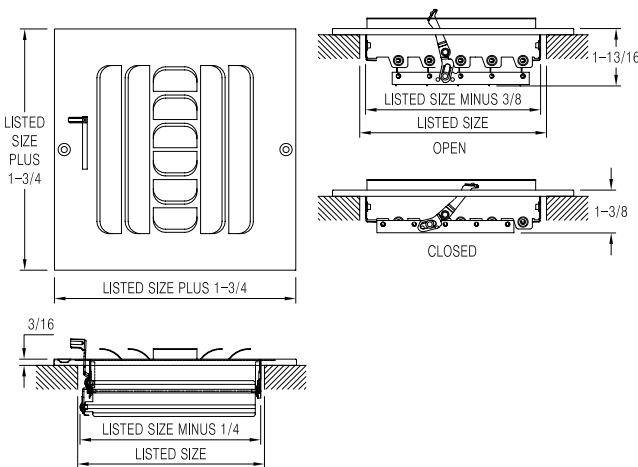
		302104 Available Sizes (In.)				
W H		6	8	10	12	14
6		●				
8			●			
10				●		
12					●	
14						●

Steel Curved-Blade Register 4-Way - Metal Lever

302119



- All steel construction
- Metal lever damper operator
- Curved blade
- One-piece stamped face construction
- Four-way air deflection
- Multi-shutter damper
- Double valves for listed height 10" and larger
- Dual-coating
- Available finish: White



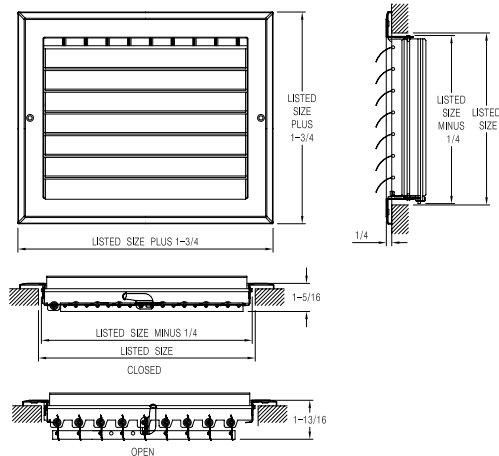
		302119 Available Sizes (In.)				
W H		6	8	10	12	14
6		●				
8			●			
10				●		
12					●	
14						●

Sidewall/Ceiling Registers and Grilles

Aluminum Curved-Blade Adjustable Register 1-Way 302203



- Aluminum face-plate construction
- For sidewall/ceiling application
- One-way air deflection
- Adjustable curved blades increase deflection control
- Multi-shutter damper
- Dual-coating
- Available finish: White

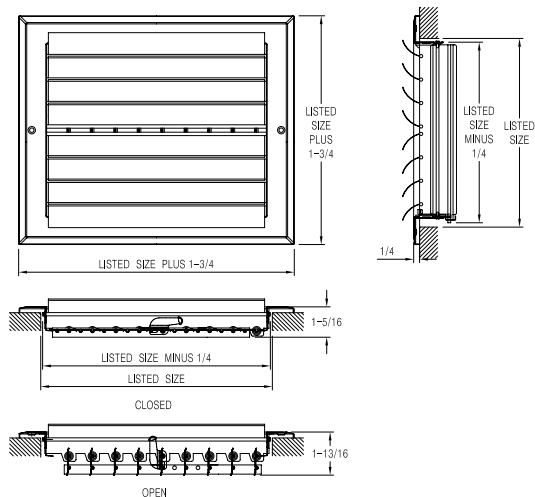


		302203 Available Sizes (In.)			
W H		8	10	12	14
4		●	●	●	●
6		●	●	●	●
8		●	●	●	●
10			●		
12				●	
14					●

Aluminum Curved-Blade Adjustable Register 2-Way 302204



- Aluminum face-plate construction
- For sidewall/ceiling application
- Two-way air deflection
- Adjustable curved blades increase deflection control
- Multi-shutter damper
- Dual-coating
- Available finish: White



		302204 Available Sizes (In.)			
W H		8	10	12	14
6			●	●	●
8		●		●	●
10			●		
12				●	

RESIDENTIAL

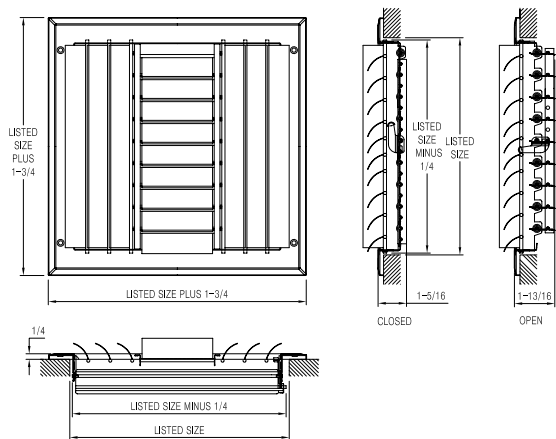
Sidewall/Ceiling Registers and Grilles

Aluminum Curved-Blade Adjustable Register 3-Way

302205



- Aluminum face-plate construction
- For sidewall/ceiling application
- Three-way air deflection
- Adjustable curved blades increase deflection control
- Multi-shutter damper
- Dual-coating
- Available finish: White



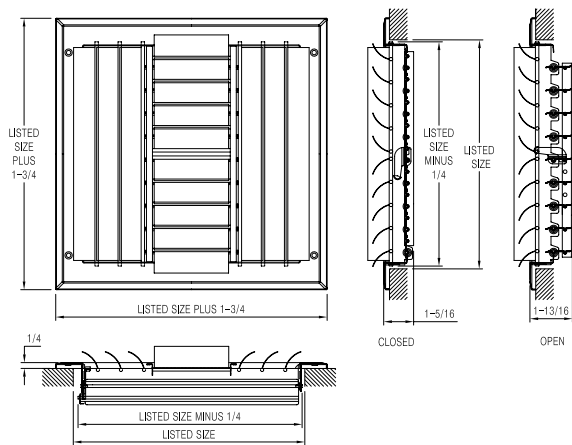
		302205 Available Sizes (In.)				
H \ W		6	8	10	12	14
	4		•	•		•
6		•		•	•	•
8			•		•	•
10				•		
12					•	
14						•

Aluminum Curved-Blade Adjustable Register 4-Way

302206



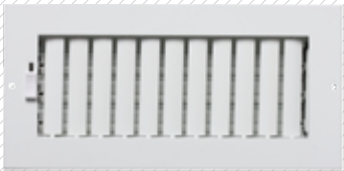
- Aluminum face-plate construction
- For sidewall/ceiling application
- Four-way air deflection
- Adjustable curved blades increase deflection control
- Multi-shutter damper
- Dual-coating
- Available finish: White



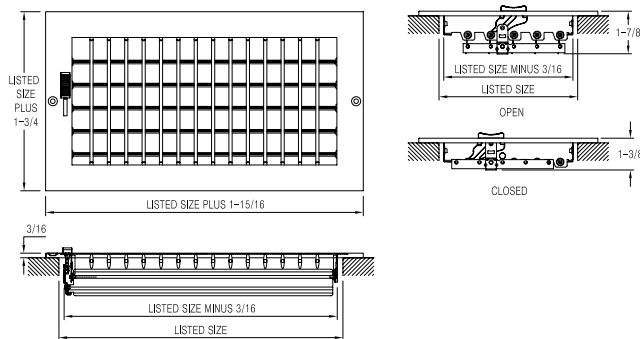
		302206 Available Sizes (In.)				
H \ W		6	8	10	12	14
	6	•				
8			•			
10				•		
12					•	
14						•

Sidewall/Ceiling Registers and Grilles

Steel Adjustable Register
302201



- Steel construction with aluminum, adjustable blades
- Adjustable blades provide individual deflection control
- For sidewall/ceiling application
- Multi-shutter damper
- Dual-coating
- Available finish: White

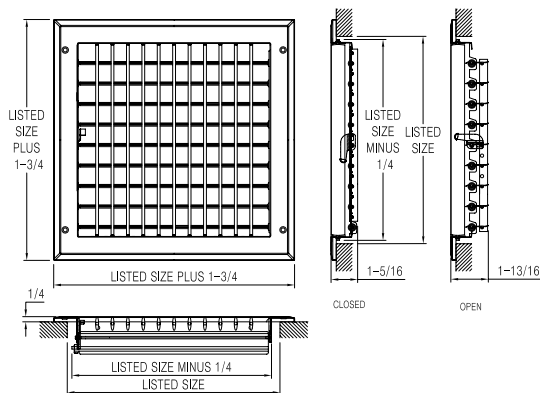


		302201 Available Sizes (In.)					
W	H	6	8	10	12	14	16
4			●	●	●	●	
6		●		●	●	●	●
8			●	●	●	●	
10				●			
12					●		

Aluminum Adjustable Register
302207



- Aluminum face-plate construction
- Adjustable blades provide individual deflection control
- For sidewall/ceiling application
- Multi-shutter damper
- Dual-coating
- Available finish: White



		302207 Available Sizes (In.)										
W	H	6	8	10	12	14	16	18	20	24	28	30
4			●	●	●	●	●		●	●		
5			●	●	●	●	●	●	●	●	●	●
6		●	●	●	●	●	●	●	●	●	●	●
8			●	●	●	●	●	●	●	●	●	●
10				●		●	●	●				
12					●			●		●		
14						●				●		
16							●					
18								●				
20									●			

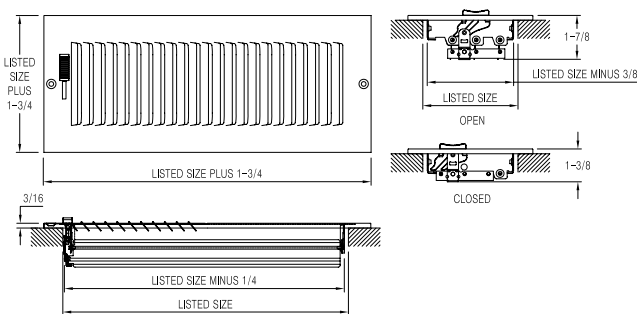
RESIDENTIAL

Sidewall/Ceiling Registers and Grilles

1/2" Fin Steel Register 1-Way
302105



- All steel one piece stamped face construction
- One-way air deflection
- 1/2" spaced fins
- Interlocking valve louvers
- Multi-shutter damper
- Dual-coating
- Available finish: White

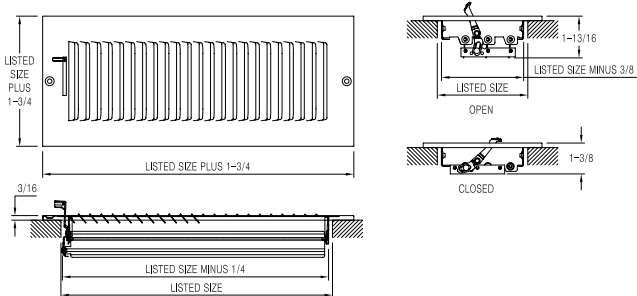


		302105 Available Sizes (In.)				
W	H	8	10	12	14	16
4		●				
6		●	●	●	●	●
8					●	

1/2" Fin Steel Register 1-Way
- Metal Lever
302120



- All steel one piece stamped face construction
- Metal lever damper operator
- One-way air deflection
- 1/2" spaced fins
- Multi-shutter damper
- Dual-coating
- Available finish: White



		302120 Available Sizes (In.)			
W	H	8	10	12	14
4		●			
6			●	●	●

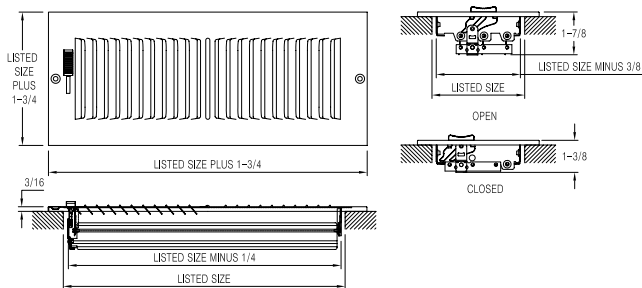
Sidewall/Ceiling Registers and Grilles

1/2" Fin Steel Register 2-Way

302106



- All steel one piece stamped face construction
- Two-way air deflection
- 1/2" spaced fins
- Interlocking valve louvers
- Multi-shutter damper
- Double valves for listed height 10" (or width 20") and larger
- Dual-coating
- Available finish: White



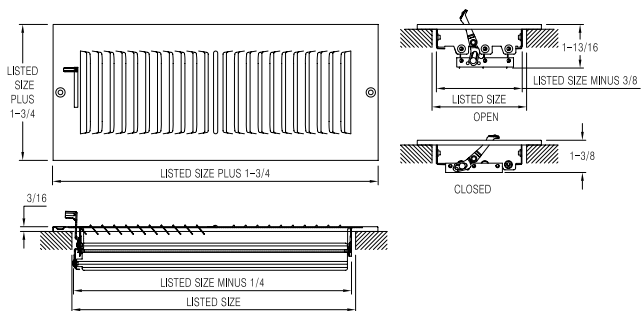
W H		302106 Available Sizes (In.)								
		6	8	10	12	14	16	18	20	24
4		●	●	●	●	●	●			
5				●	●					
6		●	●	●	●	●	●	●	●	●
8			●	●	●	●	●	●	●	●
10				●	●	●				
12					●					

1/2" Fin Steel Register 2-Way - Metal Lever

302121



- All steel one piece stamped face construction
- Metal lever damper operator
- Two-way air deflection
- 1/2" spaced fins
- Multi-shutter damper
- Double valves for listed height 10" (or width 20") and larger
- Dual-coating
- Available finish: White



		302121 Available Sizes (In.)							
W	H	6	8	10	12	14	16	18	20
4		•	•	•	•	•			
5				•	•				
6		•	•	•	•	•	•	•	•
8			•	•	•	•	•		
10				•	•	•			
12					•				

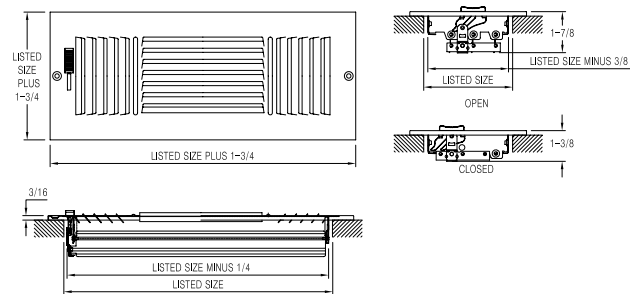
RESIDENTIAL

Sidewall/Ceiling Registers and Grilles

1/2" Fin Steel Register 3-Way
302107



- All steel one piece stamped face construction
- Three-way air deflection
- 1/2" spaced fins
- Interlocking valve louvers
- Multi-shutter damper
- Double valves for listed height 10" and larger
- Dual-coating
- Available finish: White

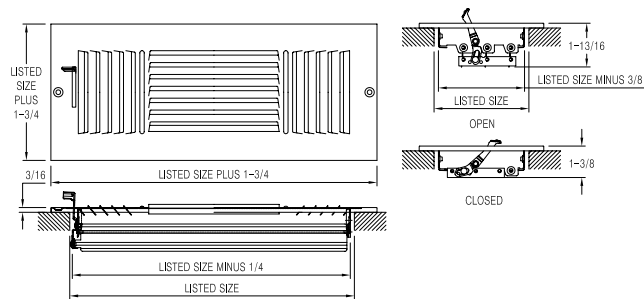


		302107 Available Sizes (In.)					
W	H	6	8	10	12	14	16
4			●	●	●	●	
6		●	●	●	●	●	●
8			●	●	●	●	●
10				●		●	
12					●		
14						●	
16							●

1/2" Fin Steel Register 3-Way
- Metal Lever
302122



- All steel one piece stamped face construction
- Metal lever damper operator
- Three-way air deflection
- 1/2" spaced fins
- Multi-shutter damper
- Double valves for listed height 10" and larger
- Dual-coating
- Available finish: White

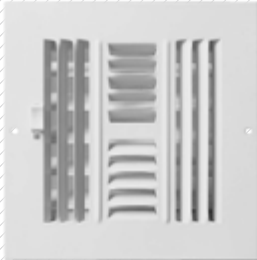


		302122 Available Sizes (In.)					
W	H	6	8	10	12	14	16
4			●	●	●	●	
6		●	●	●	●	●	
8			●	●	●	●	●
10				●		●	
12					●		
14						●	

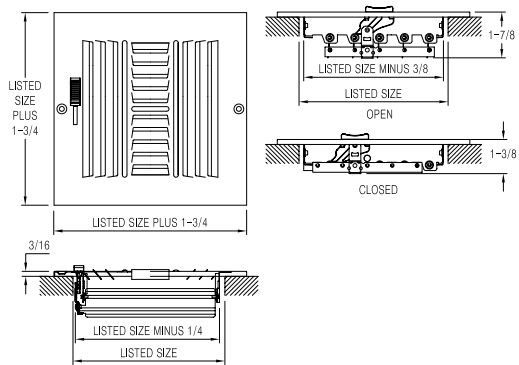
Sidewall/Ceiling Registers and Grilles

1/2" Fin Steel Register 4-Way

302108



- All steel one piece stamped face construction
- Four-way air deflection
- 1/2" spaced fins
- Interlocking valve louvers
- Multi-shutter damper
- Double valves for listed height 10" and larger
- Dual-coating
- Available finish: White



302108 Available Sizes (In.)

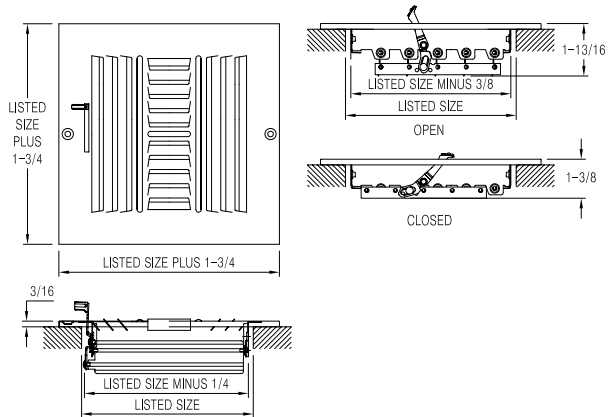
W H	6	8	10	12	14	16	18
4		•					
6	•						
8		•					
10			•				
12				•			
14					•		
16						•	
18							•

1/2" Fin Steel Register 4-Way - Metal Lever

302123



- All steel one piece stamped face construction
- Metal lever damper operator
- Four-way air deflection
- 1/2" spaced fins
- Multi-shutter damper
- Double valves for listed height 10" and larger
- Dual-coating
- Available finish: White



302123 Available Sizes (In.)

W H	6	8	10	12	14	18
6	•					
8		•				
10			•			
12				•		
14					•	
18						•

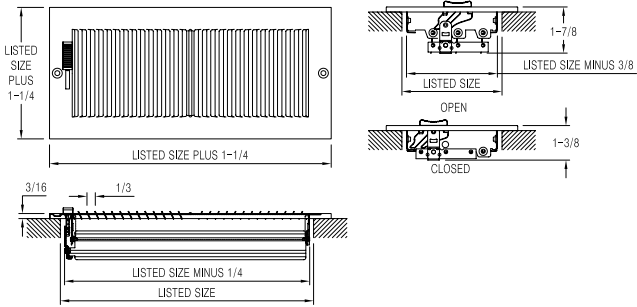
RESIDENTIAL

Sidewall/Ceiling Registers and Grilles

1/3" Fin Steel Register 2-Way
302110



- All steel one piece stamped face construction
- Two-way air deflection
- 1/3" spaced fins
- Interlocking valve louvers
- Multi-shutter damper
- Double valves for listed height 10" and larger
- Dual-coating
- Available finish: White

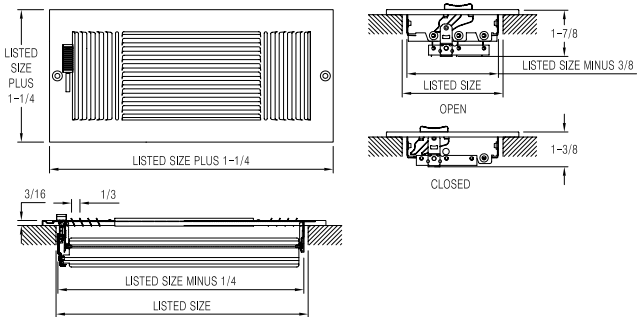


		302110 Available Sizes (In.)									
W H		6	8	10	12	14	16	18	20	24	30
4		●	●	●	●	●					
5				●	●						
6		●	●	●	●	●	●	●	●	●	●
8			●	●	●	●	●		●		●
10				●	●						
12					●	●					

1/3" Fin Steel Register
3-Way
302111



- All steel one piece stamped face construction
- Three-way air deflection
- 1/3" spaced fins
- Interlocking valve louvers
- Multi-shutter damper
- Dual-coating
- Available finish: White



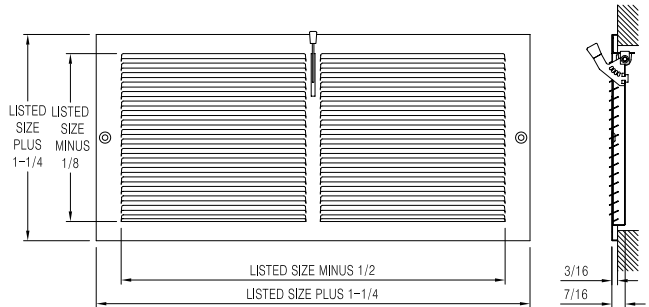
		302111 Available Sizes (In.)			
W H		8	10	12	14
4		●	●	●	
6			●	●	●
8				●	●

Sidewall/Ceiling Registers and Grilles

1/3" Fin Steel Register with Damper 302501



- Stamped steel construction
- 1/3" space fins
- For sidewall/ceiling application
- Positive volume control damper
- Dual-coating
- Available finish: White

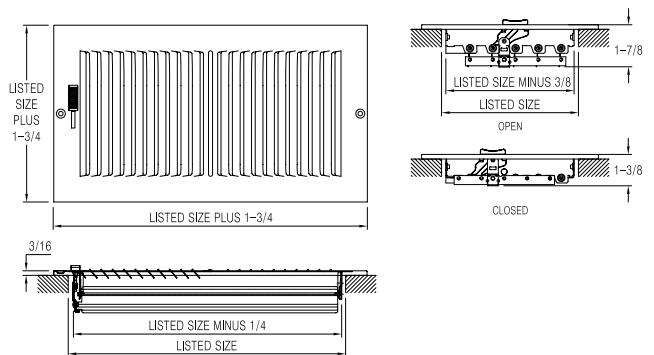


302501 Available Sizes (In.)		
W H	12	14
6	●	●

1/2" Fin Aluminum Register 2-Way 302113



- All aluminum construction
- One piece stamped face construction
- Two-way air deflection
- 1/2" spaced fins
- Interlocking valve louvers
- Multi-shutter damper
- Dual-coating
- Available finish: White



302113 Available Sizes (In.)			
W H	10	12	14
6	●	●	●

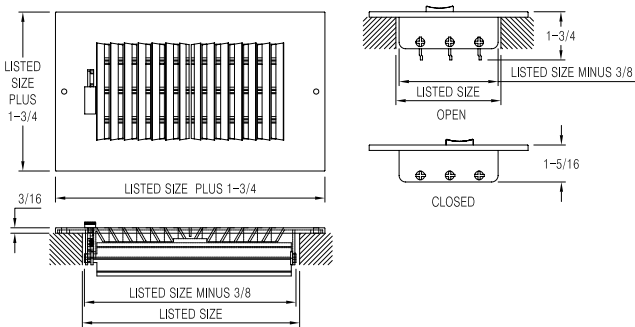
RESIDENTIAL

Sidewall/Ceiling Registers and Grilles

Plastic Register 2-Way
302401

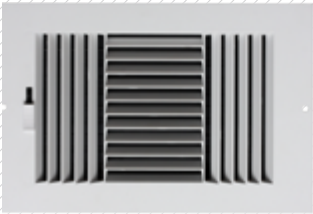


- Plastic construction
- Two-way deflection
- 1/2" space fins
- Multi-shutter damper
- Plastic easy-to-use damper handle
- Available finish: White

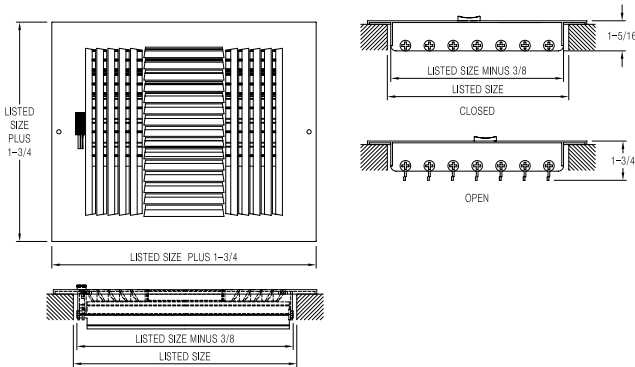


		302401 Available Sizes (In.)				
W H		6	8	10	12	14
4			●			
6		●		●	●	●
8			●	●		●
10				●		
12					●	

Plastic Register 3-Way
302402



- Plastic construction
- Three-way deflection
- 1/2" space fins
- Multi-shutter damper
- Plastic easy-to-use damper handle
- Available finish: White



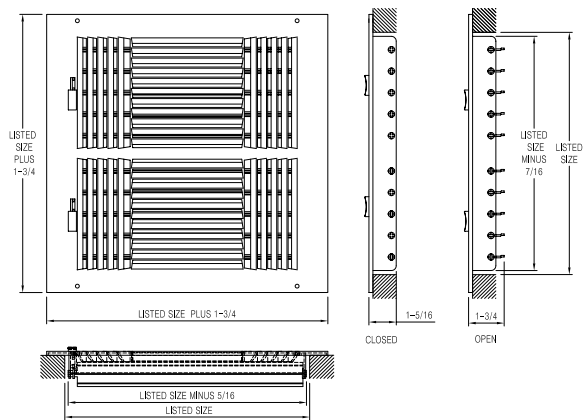
		302402 Available Sizes (In.)			
W H		8	10	12	14
4		●			
6			●	●	
8			●		●

Sidewall/Ceiling Registers and Grilles

Plastic Register4-Way
302403



- Plastic construction
- Four-way deflection
- 1/2" space fins
- Multi-shutter damper
- Plastic easy-to-use damper handle
- Available finish: White

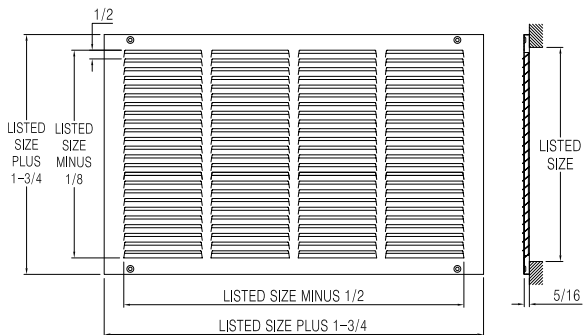


302403 Available Sizes (In.)				
W H	6	8	10	12
6	●			
8		●		
10			●	
12				●

1/2" Fin Steel Return Grille
302601



- Stamped steel construction
- 1/2" space fins
- 5/16" turnback
- Dual-coating
- Available finish: White



302601 Available Sizes (In.)																
W H	6	8	10	12	14	16	18	20	22	24	25	26	30	32	36	
4	●	●	●	●	●		●			●			●			
6	●	●	●	●	●	●	●	●		●			●		●	
8		●	●	●	●	●	●	●		●			●		●	
10			●	●	●	●	●	●		●		●	●		●	
12		●	●	●	●	●	●	●		●			●		●	
14	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
16			●	●	●	●	●	●		●	●		●		●	
18				●	●		●	●	●	●	●		●		●	
20			●	●	●	●	●	●		●	●		●		●	
24			●	●	●	●	●	●		●			●		●	
25					●	●		●			●			●		
30				●	●	●	●	●		●	●		●			
32								●								
36				●			●	●		●					●	

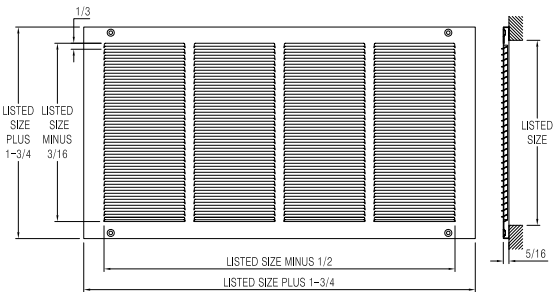
RESIDENTIAL

Sidewall/Ceiling Registers and Grilles

1/3" Fin Steel Return Grille
302602



- Stamped steel construction
- 1/3" space fins
- 5/16" turnback
- Dual-coating
- Available finish: White

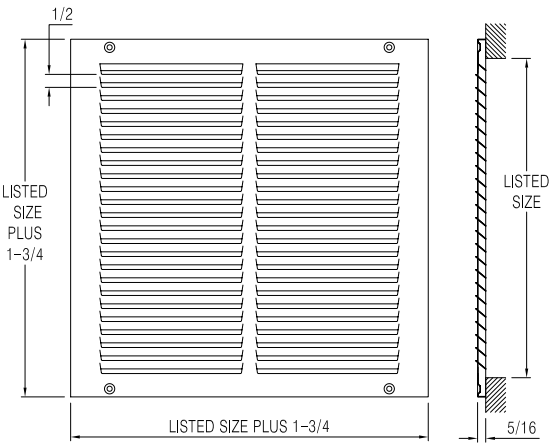


		302602 Available Sizes (In.)										
W \ H		6	8	10	12	14	16	18	20	24	30	36
4		•	•	•	•	•	•			•	•	
6		•	•	•	•	•	•	•	•	•	•	•
8			•	•	•	•	•	•	•	•	•	•
10				•	•	•	•	•	•	•	•	•
12					•	•	•	•	•	•	•	•
14		•	•	•	•	•	•		•	•	•	
16					•	•	•	•	•	•	•	
18						•		•	•	•	•	
20				•	•	•	•		•	•	•	
24				•	•	•	•	•	•	•	•	
25									•			
30						•			•	•	•	
36												•

1/2" Fin Aluminum Return Grille
302603



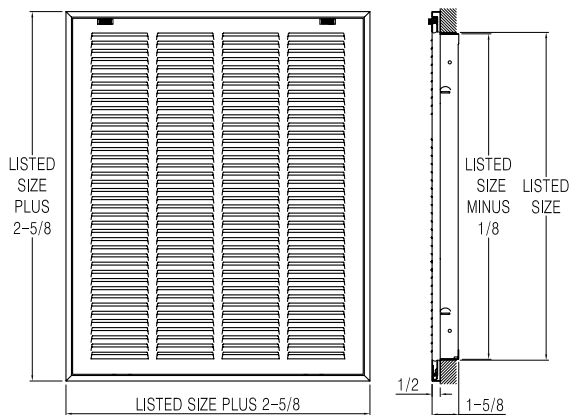
- Aluminum construction
- 1/2" space fins
- 5/16" turnback
- Dual-coating
- Available finish: White



		302603 Available Sizes (In.)					
W \ H		6	8	10	12	14	16
6		•				•	
8			•			•	•
10				•		•	
12					•		

Sidewall/Ceiling Registers and Grilles

1/2" Fin Steel Return Air Filter Grille
302702



- Steel construction
- 1/2" spaced fins
- Easy-to-use plug with plastic operator
- Removable face for easy installation and cleaning
- Use standard 1" thick filters (not included)
- Durable coating finish: White

302702 Available Sizes (In.)													
W H	10	12	14	16	18	20	22	24	25	30	32	35	40
6	●	●	●					●		●			
8			●		●	●		●		●			
10	●		●			●		●		●		●	
12		●	●	●	●	●		●	●	●		●	
14			●			●		●	●	●		●	
16			●	●		●		●	●	●		●	
18		●			●	●		●	●	●		●	
20	●	●	●	●		●		●	●	●		●	●
22							●						
24		●	●	●	●	●		●		●		●	
25			●	●	●	●			●	●	●		
30		●	●	●	●	●		●	●	●			
32				●					●				
36		●		●	●	●		●					
40						●							

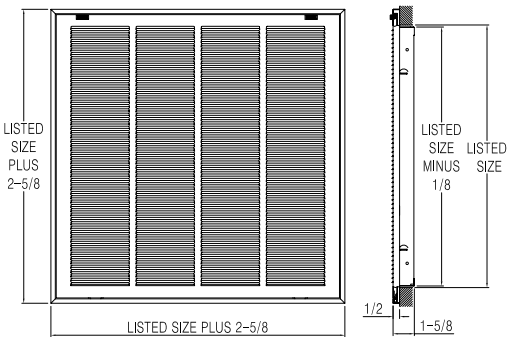
RESIDENTIAL

Sidewall/Ceiling Registers and Grilles

1/3" Fin Steel Return Air Filter Grille
302703



- Steel construction
- 1/3" space fins
- Easy-to-use plug with plastic operator
- Removable face for easy installation and cleaning
- Use standard 1" thick filters (not included)
- Durable coating finish: White

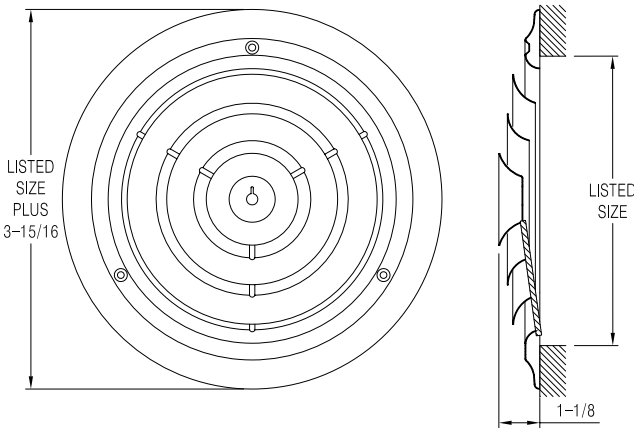


302703 Available Sizes (In.)									
W H	10	12	14	16	18	20	24	25	30
6			●						●
8			●				●		●
10	●					●	●		●
12		●				●	●		
14			●			●	●	●	●
16				●		●	●	●	
18					●				●
20	●	●	●	●		●	●	●	●
24		●	●			●	●		●
25			●	●		●		●	
30			●			●	●		●

Steel Round Ceiling Diffuser
304101



- Steel construction
- Step-down diffuser rings
- 360° air deflection
- Accept model #305101 damper
- Durable coating finish: White

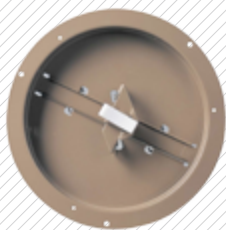


304101 Available Sizes (In.)					
Diameter					
6	8	10	12	14	
●	●	●	●	●	

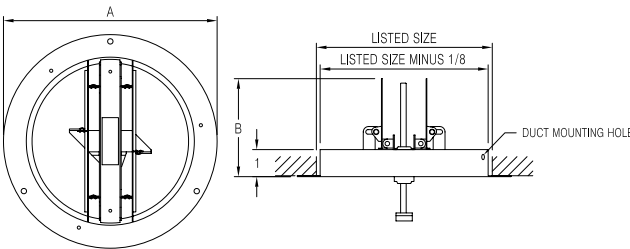
Sidewall/Ceiling Registers and Grilles

Steel Round Duct Ring with Butterfly Damper

305101



- Steel construction
- Removable knob operator for adjustment from closed to fully open
- Control air volume evenly for model #304101 ceiling diffuser
- Durable coating finish: Brown

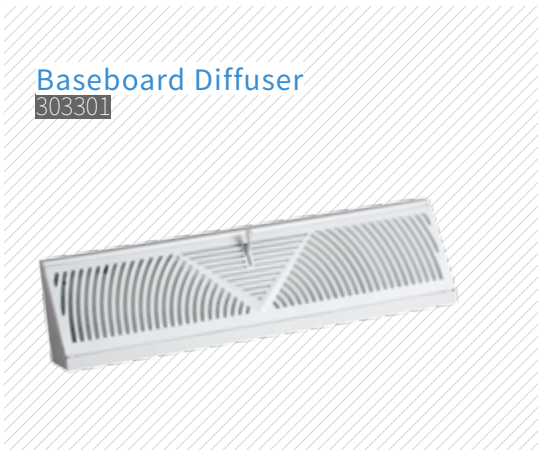


305101 Available Sizes (In.)		
Diameter		
Size	A	B
6	7-1/2	3-3/8
8	9-1/2	4-3/8
10	11-1/2	5-7/16
12	13-1/2	6-7/16
14	15	7-7/16

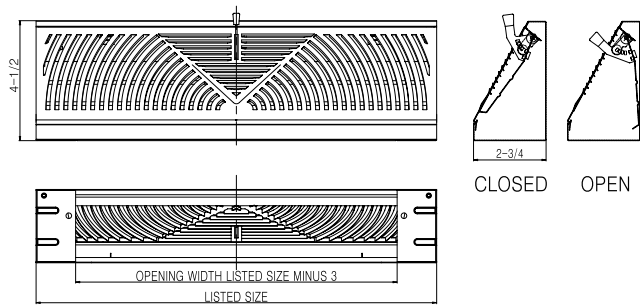
RESIDENTIAL

Baseboard Registers and Grilles

Baseboard Diffuser
303301



- Steel construction
- One-piece stamped sunbrust faceplate
- Volume control damper
- 180° air deflection
- Removable faceplate for easy installation and cleaning
- Durable coating finish: White, Brown



303301 Available Sizes (In.)

Width

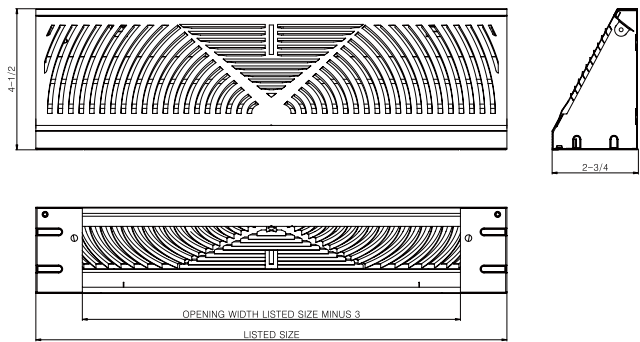
15 18 24



Baseboard Return Air Grille
303401



- Steel construction
- Removable faceplate for easy installation and cleaning
- Complementary return air grille for model #303301 supply
- Durable coating finish: White, Brown



303401 Available Sizes (In.)

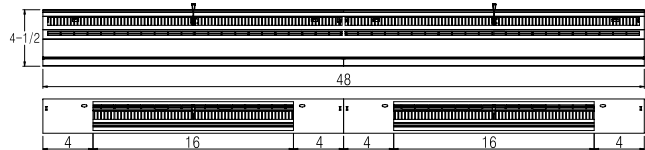
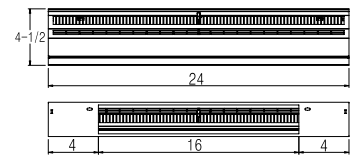
Width

15 18



Baseboard Registers and Grilles

Baseboard Diffuser
303303



- Steel construction
- Removable faceplate for easy installation and cleaning
- Airfoil valves reduce resistance
- Dual valves for 48" width
- Durable coating finish: White, Brown

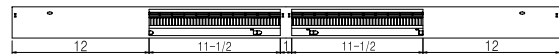
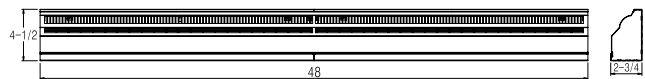
303303 Available Sizes (In.)

Width

24

48

Baseboard Return Air Grille
303403



- Steel construction
- Removable faceplate for easy installation and cleaning
- Complementary return air grille for model #303303 supply
- Durable coating finish: White, Brown

303403 Available Sizes (In.)

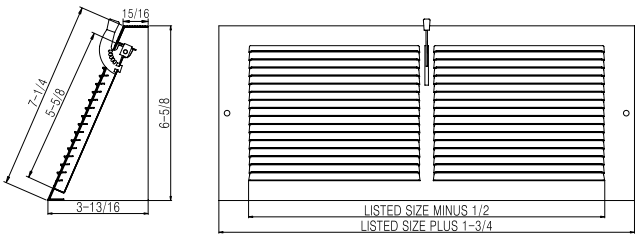
Width

48

RESIDENTIAL

Baseboard Registers and Grilles

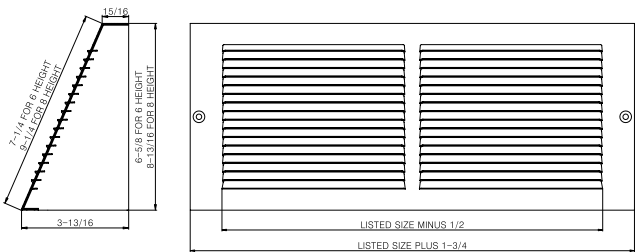
Baseboard Register
303304



- Steel construction
- 1/3" spaced fins
- Volume control damper
- Durable coating finish: White

303304 Available Sizes (In.)				
W H	10	12	14	
6	●	●	●	

Baseboard Return Air Grille
303402



- Steel construction
- 1/3" space fins
- Complementary return air grille for model #303304 supply
- Durable coating finish: White

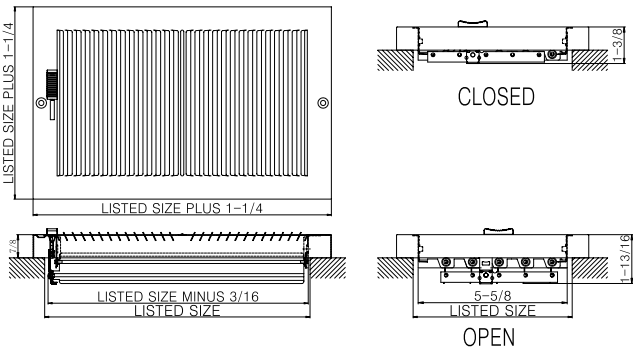
303402 Available Sizes (In.)				
W H	12	14	24	30
6	●	●	●	●
8		●	●	●

Baseboard Registers and Grilles

Baseboard Register
303101



- One-piece steel construction
- 7/8" projection
- 1/3" space fins
- Multi-shutter damper
- Durable coating finish: White

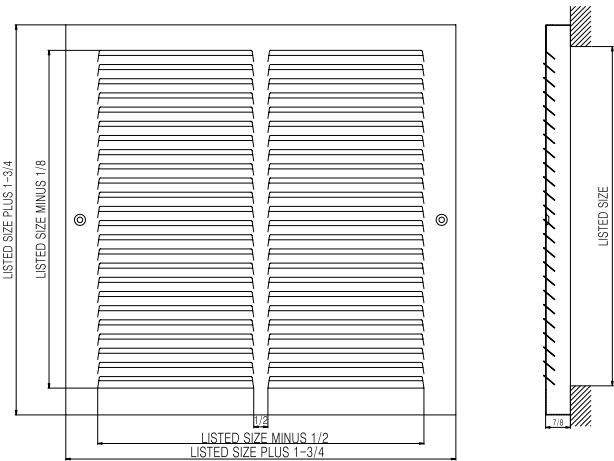


303101 Available Sizes (In.)				
W H	10	12	14	
6	●	●	●	

1/2" Fin Baseboard Return Air Grille
303201



- One-piece steel construction
- 7/8" projection
- 1/2" space fins
- Durable coating finish: White



303201 Available Sizes (In.)								
W H	10	12	14	16	20	24	30	36
6	●	●	●	●	●	●	●	●
8			●	●	●	●	●	●
10			●			●	●	●
12						●	●	●

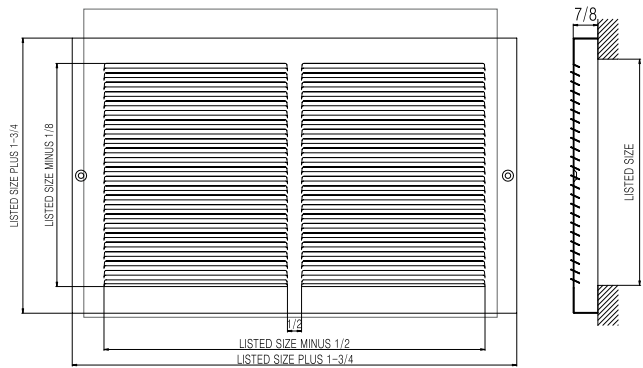
RESIDENTIAL

Baseboard Registers and Grilles

1/3" Fin Baseboard Return Air Grille
303202



- One-piece steel construction
- 7/8" projection
- 1/3" space fins
- Complementary return air grille for model #303101 supply
- Durable coating finish: White

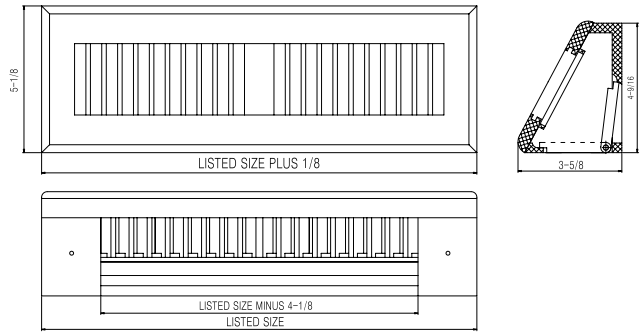


303202 Available Sizes (In.)									
W	H	10	12	14	16	20	24	30	36
4				●					
6		●	●	●	●	●	●	●	●
8		●	●	●	●	●	●	●	●
10				●			●	●	●
12				●			●	●	
14				●					

Oak Baseboard Diffuser
303305



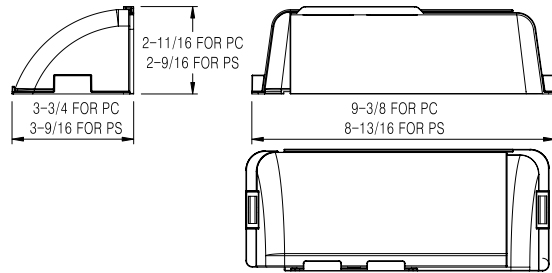
- Solid oak construction
- Louvered faceplate
- Removable faceplate for easy installation and cleaning
- Protective coating
- Available finish: Natural Oak, Light Oak



303305 Available Sizes (In.)			
		Width	
		15	18
		●	●

Air Deflector for Floor Register

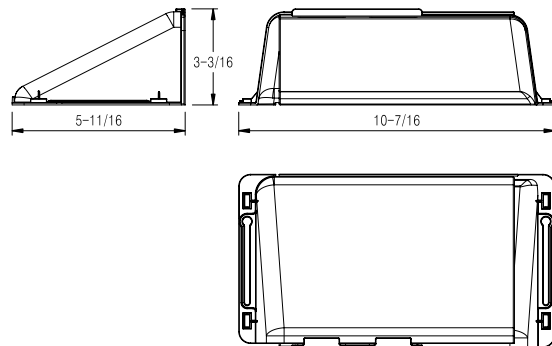
305201



- Unbreakable and adjustable
- Fixed permanent magnets
- Match with 10"-14" floor registers
- Available material: PC and PS
- Increasing efficiency of heating or cooling by redirecting air flow

Air Deflector for Sidewall Register

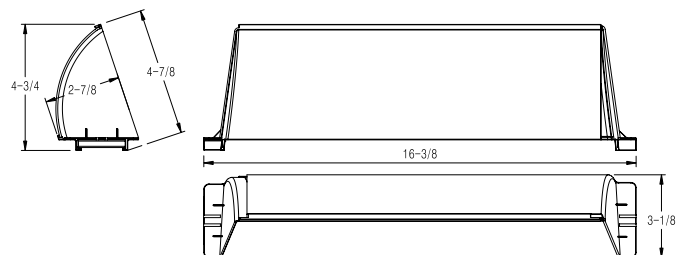
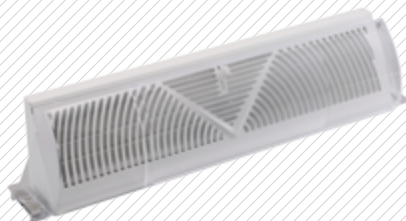
305202



- Clear and adjustable
- Fixed permanent magnets
- Screw slots for secure mounting to register
- Match with 10"-16" sidewall registers
- Increasing efficiency of heating or cooling by redirecting air flow

Air Deflector for Baseboard Register

305203



- Clear and adjustable
- Fixed permanent magnets
- Match with 15"-24" baseboard diffusers
- Increasing efficiency of heating or cooling by redirecting air flow

LIGHT COMMERCIAL

43 Ceiling diffusers

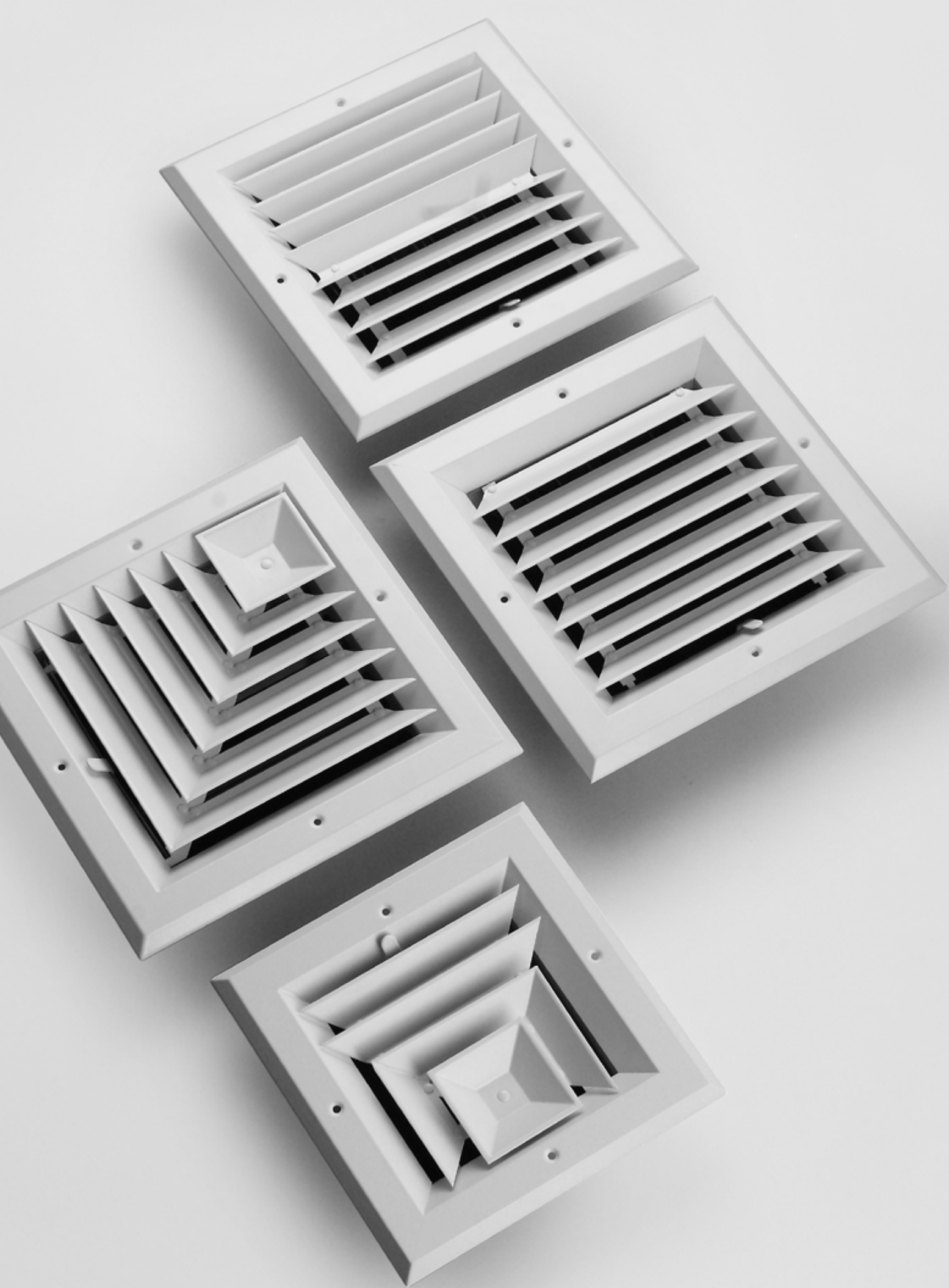
- 43 Aluminum Square Ceiling Diffuse
- 45 Steel Removable Square Diffuser

47 Sidewall/Ceiling Supplies and Returns

- 47 Vertical Single Deflection Supply
- 48 Fixed Bar Grille
- 51 Fixed Bar Filter Grille
- 53 Aluminum Linear Diffuser
- 54 Aluminum Single Deflection Grille
- 55 Aluminum Double Deflection Grille
- 56 Aluminum Single Deflection Grille with Damper
- 57 Aluminum Double Deflection Grille with Damper
- 58 Aluminum Egg Crate Grille
- 60 Aluminum Weather Resistant Louver
- 60 Aluminum OBD Damper
- 62 Aluminum Slot Diffuser
- 62 Galvanized Distribution Plenum
- 63 Plastic Egg Crate Grille

64 Accessories

- 64 Aluminum Diffuser Frame Bar
- 64 Steel Duct Ring



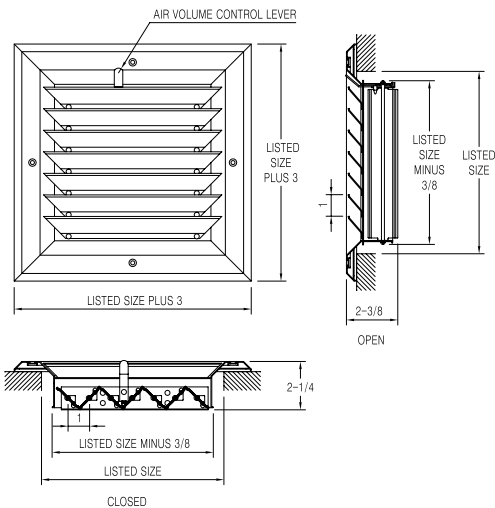
LIGHT COMMERCIAL

Ceiling Diffusers

Aluminum Square Ceiling Diffuser
1-Way
402101



- Extruded aluminum construction
- For sidewall or ceiling application
- One-way air deflection
- Opposed-blade damper
- Inconspicuous fingertip lever for air volume control
- Durable coating
- Available finish: White

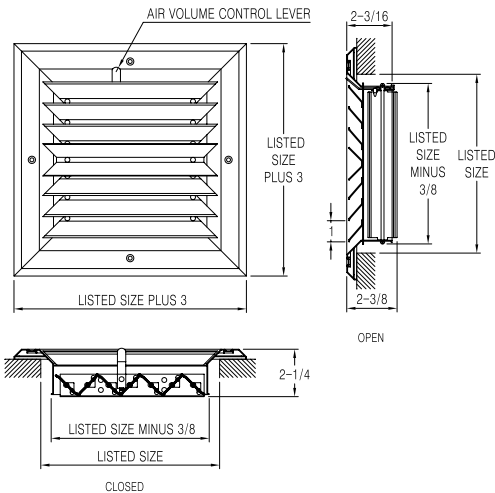


402101 Available Sizes (In.)					
W H	6	8	10	12	14
6	●				
8		●			
10			●		
12				●	
14					●

Aluminum Square Ceiling Diffuser
2-Way
402102



- Extruded aluminum construction
- For sidewall or ceiling application
- Two-way air deflection
- Opposed-blade damper
- Inconspicuous fingertip lever for air volume control
- Durable coating
- Available finish: White



402102 Available Sizes (In.)					
W H	6	8	10	12	14
6	●				
8		●			
10			●		
12				●	
14					●

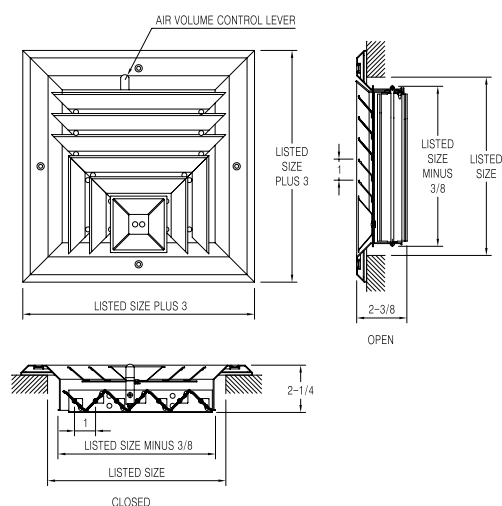
Ceiling Diffusers

Aluminum Square Ceiling Diffuser 3-Way

402103



- Extruded aluminum construction
- For sidewall or ceiling application
- Three-way air deflection
- Opposed-blade damper
- Inconspicuous fingertip lever for air volume control
- Durable coating
- Available finish: White



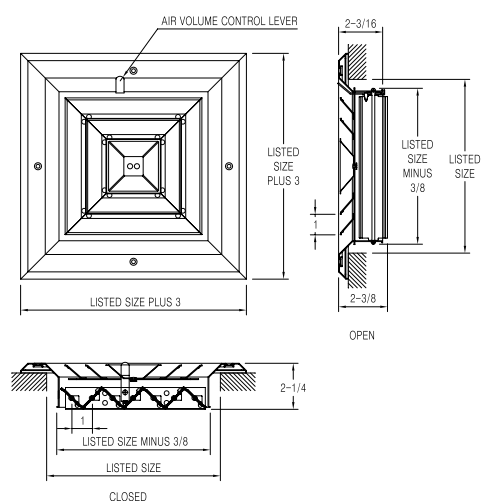
402103 Available Sizes (In.)					
H \ W	6	8	10	12	14
6	●				
8		●			
10			●		
12				●	
14					●

Aluminum Square Ceiling Diffuser 4-Way

402104



- Extruded aluminum construction
- For sidewall or ceiling application
- Four-way air deflection
- Opposed-blade damper
- Inconspicuous fingertip lever for air volume control
- Durable coating
- Available finish: White



402104 Available Sizes (In.)					
H \ W	6	8	10	12	14
6	●				
8		●			
10			●		
12				●	
14					●

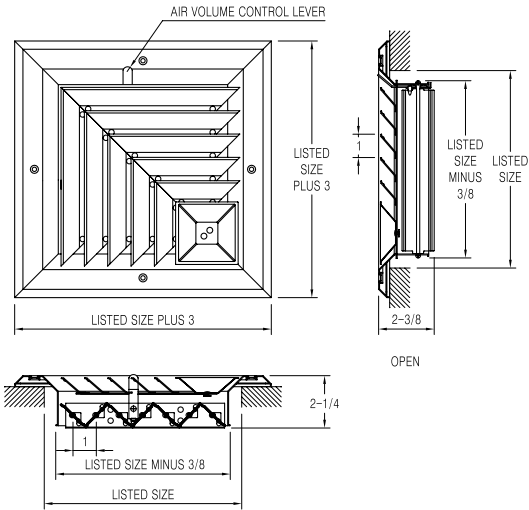
LIGHT COMMERCIAL

Ceiling Diffusers

Aluminum Square Ceiling Diffuser
2-Way Corner
402105



- Extruded aluminum construction
- For sidewall or ceiling application
- Two-way air deflection
- Opposed-blade damper
- Inconspicuous fingertip lever for air volume control
- Durable coating
- Available finish: White

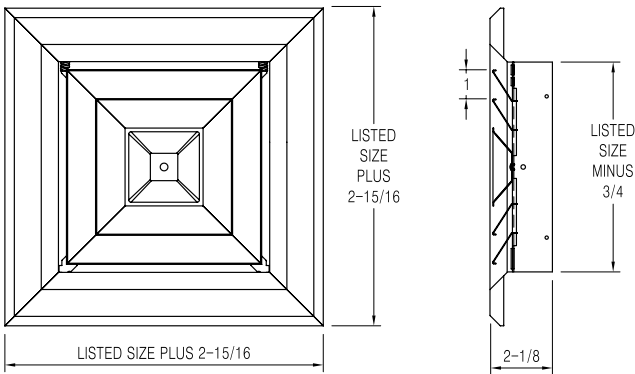


402105 Available Sizes (In.)					
W H	6	8	10	12	14
6	●				
8		●			
10			●		
12				●	
14					●

Steel Removable Square Diffuser
402113



- Steel construction
- Four-way pattern
- Core easily removable with spring loaded latches-no tooling required
- Durable coating
- Available finish: White



402113 Available Sizes (In.)					
W H	6	8	10	12	14
6	●				
8		●			
10			●		
12				●	
14					●

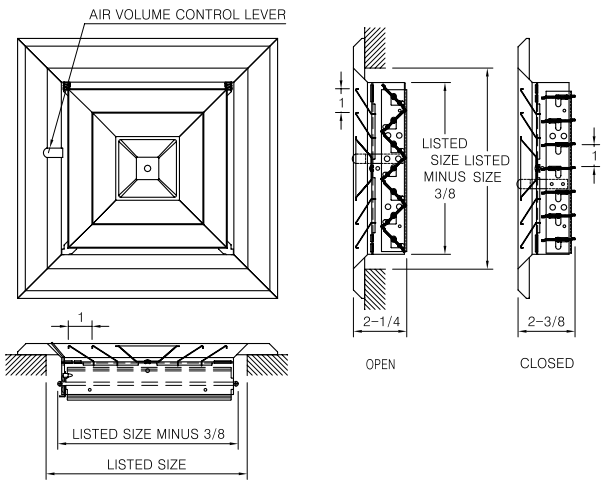
Ceiling Diffusers

Steel Removable Square Diffuser
with Damper

402114



- Steel construction
- Four-way pattern
- Core easily removable with spring loaded latches-no tooling required
- Inconspicuous fingertip lever for air volume control
- Durable coating
- Available finish: White



402114 Available Sizes (In.)					
W H	6	8	10	12	14
6	●				
8		●			
10			●		
12				●	
14					●

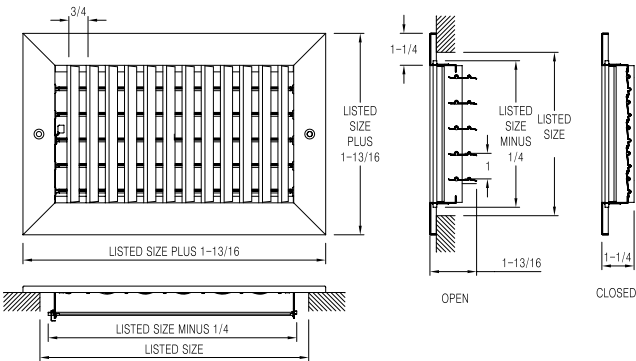
LIGHT COMMERCIAL

Sidewall/Ceiling Supplies and Returns

Steel Vertical Single Deflection Supply
401301



- Steel construction
- Vertical adjustable face bars
- With multi-shutter damper
- Durable coating
- Available finish: White

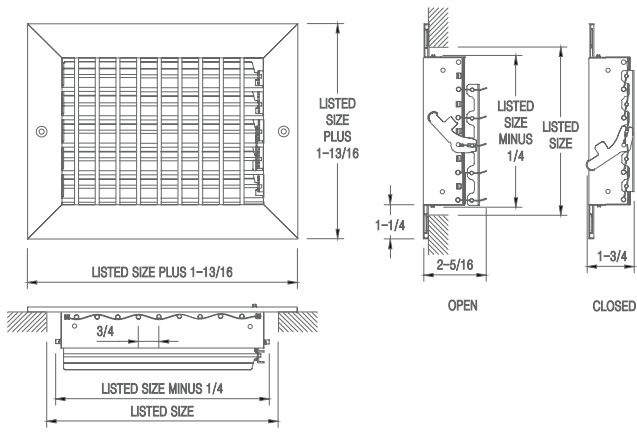


W H		401301 Available Sizes (In.)								
		6	8	10	12	14	16	18	20	24
4			●	●	●	●	●	●	●	●
6		●	●	●	●	●	●	●	●	●
8			●	●	●	●	●	●	●	●
10				●	●	●	●	●	●	●
12					●	●	●	●	●	●
14						●	●	●	●	●
16							●	●	●	●
18								●	●	●

Sidewall/Ceiling Supplies and Returns

Aluminum Vertical Single Deflection Supply

401302



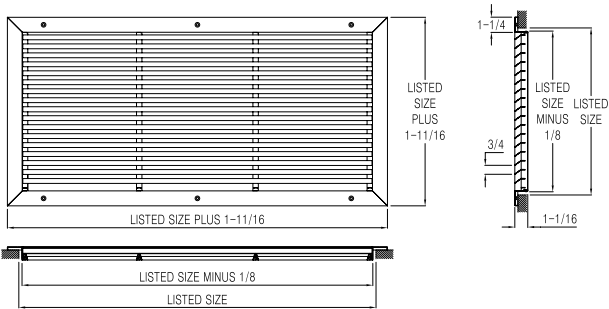
- Extruded aluminum construction
- Vertical adjustable face bars
- With multi-shutter damper
- Durable coating
- Available finish: White

W H		401302 Available Sizes (In.)																	
		4	5	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36
4		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
5			•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
6				•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
8					•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
10						•	•	•	•	•	•	•	•	•	•	•	•	•	•
12							•	•	•	•	•	•	•	•	•	•	•	•	•
14								•	•	•	•	•	•	•	•	•	•	•	•
16									•	•	•	•	•	•	•	•	•	•	•
18										•	•	•	•	•	•	•	•	•	•
20											•	•	•	•	•	•	•	•	•
22												•	•	•	•	•	•	•	•
24													•	•	•	•	•	•	•
26														•	•	•	•	•	•
28															•	•	•	•	•
30																•	•	•	•
32																	•	•	•
34																		•	•
36																			•

LIGHT COMMERCIAL

Sidewall/Ceiling Supplies and Returns

Steel Fixed Bar Grille
401403

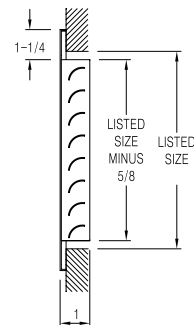
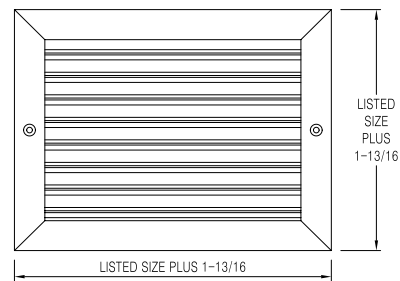


- Steel construction
- 35-degree horizontal bars
- Durable coating
- Available finish: White

401403 Available Sizes (In.)																	
W H	6	8	10	12	14	16	18	20	22	24	25	26	28	30	32	34	36
6	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
8		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
10			•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
12				•	•	•	•	•	•	•	•	•	•	•	•	•	•
14					•	•	•	•	•	•	•	•	•	•	•	•	•
16						•	•	•	•	•	•	•	•	•	•	•	•
18							•	•	•	•	•	•	•	•	•	•	•
20								•	•	•	•	•	•	•	•	•	•
22									•	•	•	•	•	•	•	•	•
24										•	•	•	•	•	•	•	•
25											•	•	•	•	•	•	•
26												•	•	•	•	•	•
28													•	•	•	•	•
30														•	•	•	•

Sidewall/Ceiling Supplies and Returns

Aluminum Return Air Grille
401405



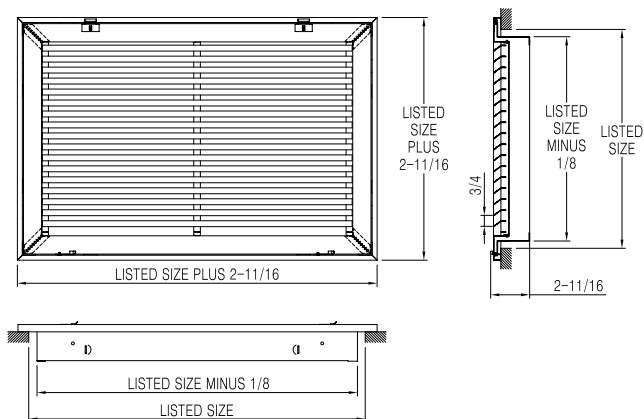
- ⊙ Extruded aluminum construction
- ⊙ Horizontal bars at 45 degrees
- ⊙ Face bars permanently fixed
- ⊙ Available finish: White

W H		401405 Available Sizes (In.)																							
		4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48	
4	4	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
6	6		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
8	8			●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
10	10				●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
12	12					●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
14	14						●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
16	16							●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
18	18								●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
20	20									●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
22	22										●	●	●	●	●	●	●	●	●	●	●	●	●	●	
24	24											●	●	●	●	●	●	●	●	●	●	●	●	●	
26	26												●	●	●	●	●	●	●	●	●	●	●	●	
28	28													●	●	●	●	●	●	●	●	●	●	●	
30	30														●	●	●	●	●	●	●	●	●	●	
32	32															●	●	●	●	●	●	●	●	●	
34	34																●	●	●	●	●	●	●	●	
36	36																	●	●	●	●	●	●	●	
38	38																		●	●	●	●	●	●	
40	40																			●	●	●	●	●	
42	42																				●	●	●	●	
44	44																					●	●	●	
46	46																						●	●	
48	48																							●	

LIGHT COMMERCIAL

Sidewall/Ceiling Supplies and Returns

Steel Fixed Bar Filter Grille
401507

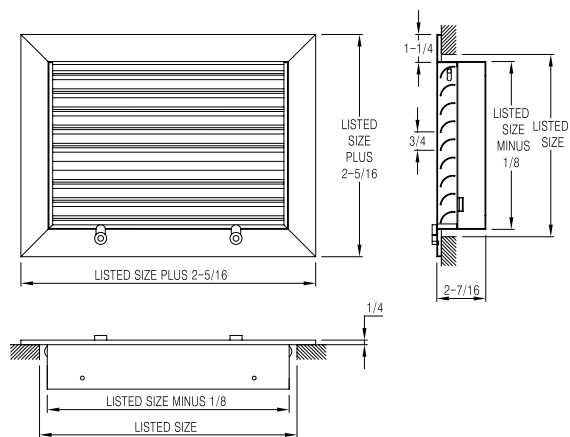


- Steel construction
- Removable hinged face for easy installation and cleaning
- Use nominal 1" thick filters (not included)
- Durable coating
- Available finish: White

401507 Available Sizes (In.)														
W H	12	14	16	18	20	22	24	25	26	28	30	32	34	36
10	●	●	●	●	●	●	●	●	●	●	●	●	●	●
12	●	●	●	●	●	●	●	●	●	●	●	●	●	●
14		●	●	●	●	●	●	●	●	●	●	●	●	●
16			●	●	●	●	●	●	●	●	●	●	●	●
18				●	●	●	●	●	●	●	●	●	●	●
20					●	●	●	●	●	●	●	●	●	●
22						●	●	●	●	●	●	●	●	●
24							●	●	●	●	●	●	●	●
25								●	●	●	●	●	●	●
26									●	●	●	●	●	●
28										●	●	●	●	●
30											●	●	●	●

Sidewall/Ceiling Supplies and Returns

Aluminum Return Air Filter Grill
401513



- Extruded aluminum construction
- Horizontal bars at 45 degrees
- Use nominal 1" thick filters (not included)
- Filter grilles equipped with the rotated latch
- Available Finish: White

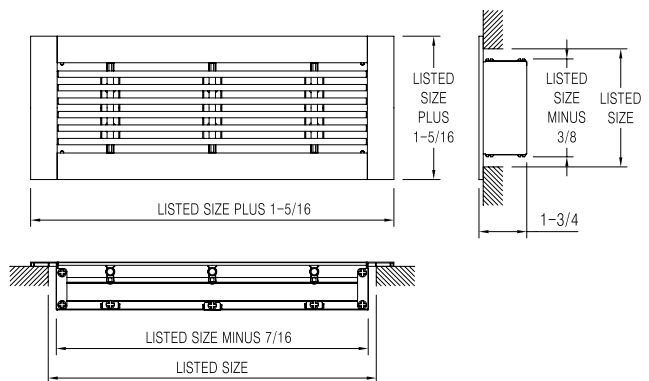
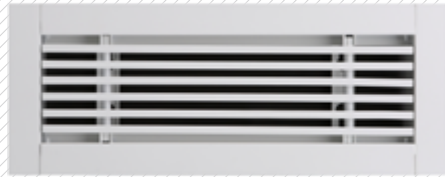
W H	401513 Available Sizes (In.)																					
	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48	
8	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
10		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
12			●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
14				●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
16					●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
18						●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
20							●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
22								●	●	●	●	●	●	●	●	●	●	●	●	●	●	
24									●	●	●	●	●	●	●	●	●	●	●	●	●	
26										●	●	●	●	●	●	●	●	●	●	●	●	
28											●	●	●	●	●	●	●	●	●	●	●	
30												●	●	●	●	●	●	●	●	●	●	
32													●	●	●	●	●	●	●	●	●	
34														●	●	●	●	●	●	●	●	
36															●	●	●	●	●	●	●	
38																●	●	●	●	●	●	
40																	●	●	●	●	●	
42																		●	●	●	●	
44																			●	●	●	
46																				●	●	
48																					●	

LIGHT COMMERCIAL

Sidewall/Ceiling Supplies and Returns

Aluminum Linear Diffuser

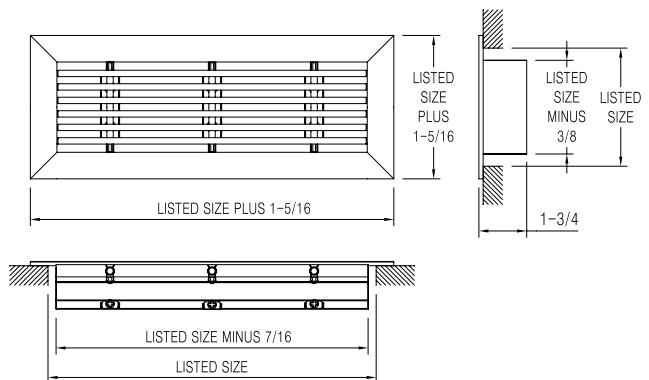
401514



- Extruded aluminum construction
- For sidewall or ceiling application
- Removable face and frame for easy installation
- Maximum one-piece length 72", width available in 4", 6", 8", 10"
- Length over 72" made in multiple units with keyways splices for even continuous lengths
- Available finish: White

Aluminum Linear Diffuser

401515

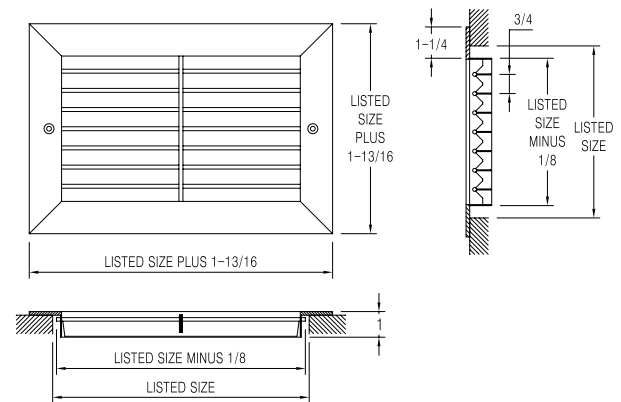


- Extruded aluminum construction
- For sidewall or ceiling application
- Removable face for easy installation
- Fixed frame
- Maximum one-piece length 72" , width available in 4", 6", 8", 10"
- Length over 72" made in multiple units with keyways splices for even continuous lengths
- Available finish: White

Sidewall/Ceiling Supplies and Returns

Aluminum Horizontal Single Deflection Grille

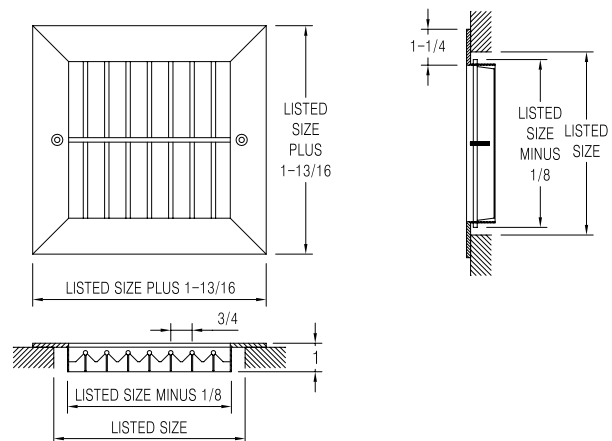
401202



- ◉ Extruded aluminum construction
- ◉ Adjustable horizontal bars provide individual deflection control
- ◉ Accept model #403202 OBD damper
- ◉ Durable coating
- ◉ Available finish: White

Aluminum Vertical Single Deflection Grille

401203



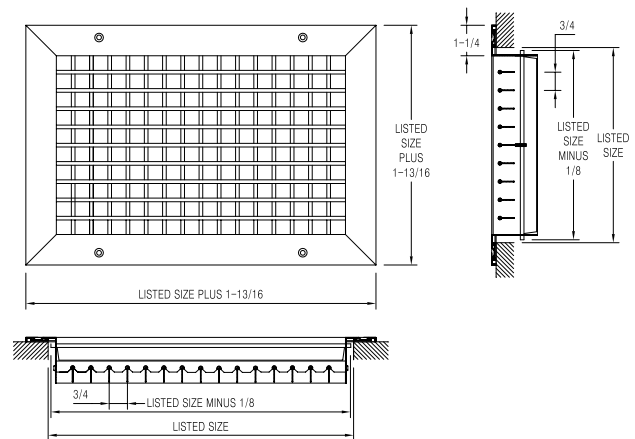
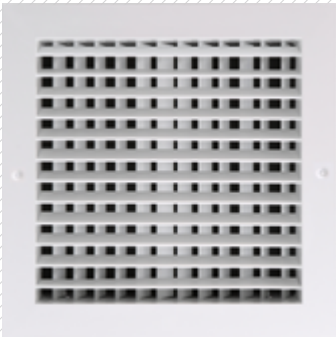
- ◉ Extruded aluminum construction
- ◉ Adjustable vertical bars provide individual deflection control
- ◉ Accept model #403202 OBD damper
- ◉ Durable coating
- ◉ Available finish: White

LIGHT COMMERCIAL

Sidewall/Ceiling Supplies and Returns

Aluminum Double Deflection Horizontal and Vertical Grille

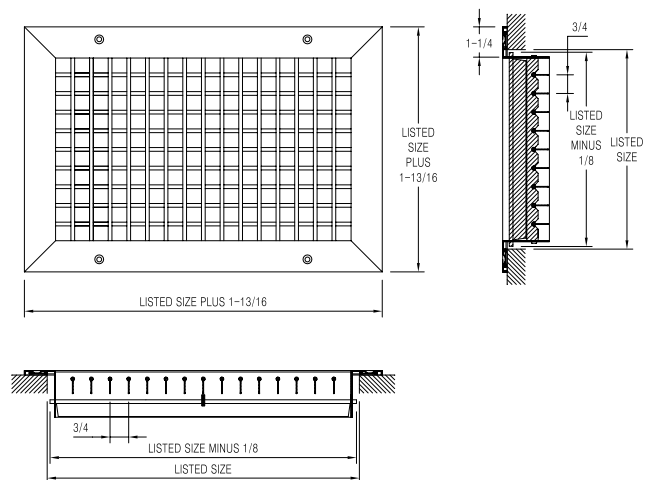
401204



- ◊ Extruded aluminum construction
- ◊ Horizontal front bars
- ◊ Adjustable individual bars provide horizontal and vertical deflection control
- ◊ Accept model #403202 OBD damper
- ◊ Durable coating
- ◊ Available finish: White

Aluminum Double Deflection Vertical and Horizontal Grille

401205

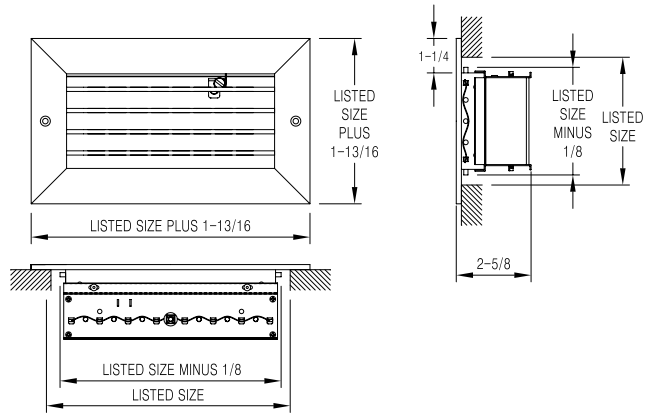


- ◊ Extruded aluminum construction
- ◊ Vertical front bars
- ◊ Adjustable individual bars provide horizontal and vertical deflection control
- ◊ Accept model #403202 OBD damper
- ◊ Durable coating
- ◊ Available finish: White

Sidewall/Ceiling Supplies and Returns

Aluminum Horizontal Single Deflection Grille with Damper

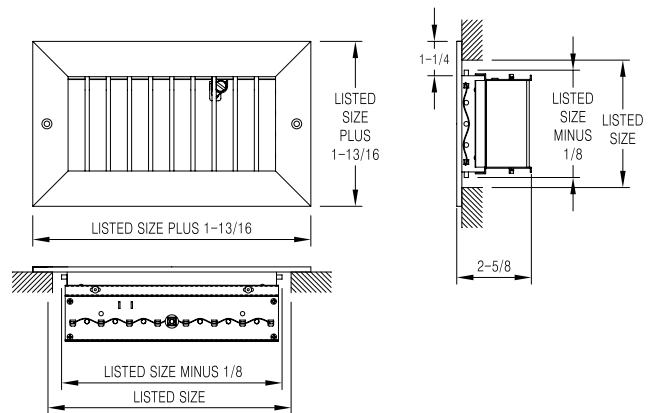
401604



- Extruded aluminum construction
- Adjustable horizontal bars provide individual deflection control
- Opposed-blade damper for volume control
- Available finish: White

Aluminum Vertical Single Deflection Grille with Damper

401602



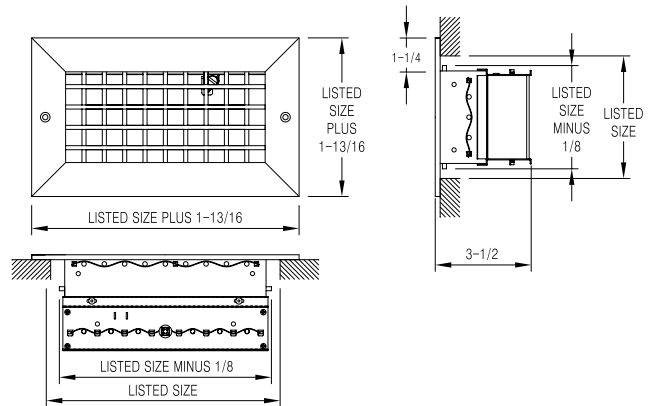
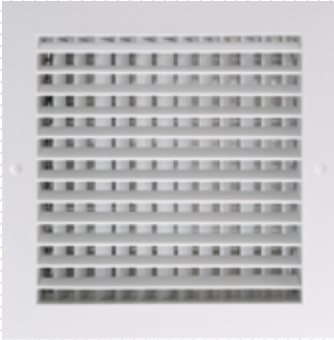
- Extruded aluminum construction
- Adjustable Vertical bars provide individual deflection control
- Opposed-blade damper for volume control
- Available finish: White

LIGHT COMMERCIAL

Sidewall/Ceiling Supplies and Returns

Aluminum Double Deflection Horizontal and Vertical Grille with Damper

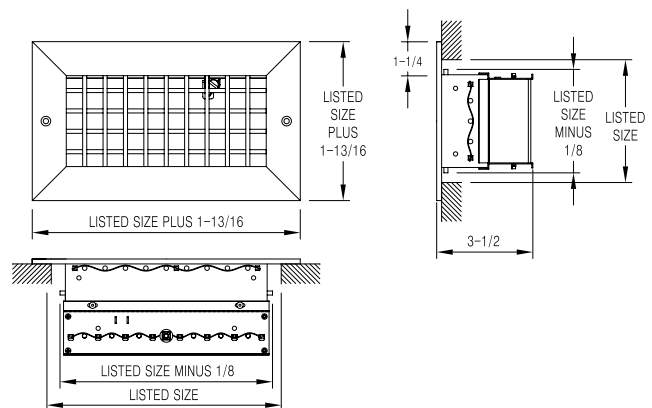
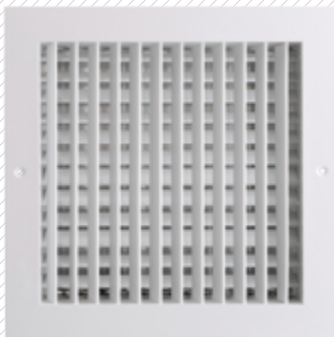
401603



- Extruded aluminum construction
- Horizontal front bars
- Adjustable individual bars provide horizontal and vertical deflection control
- Opposed-blade damper for volume control
- Available finish: White

Aluminum Double Deflection Vertical and Horizontal Grille with Damper

401601

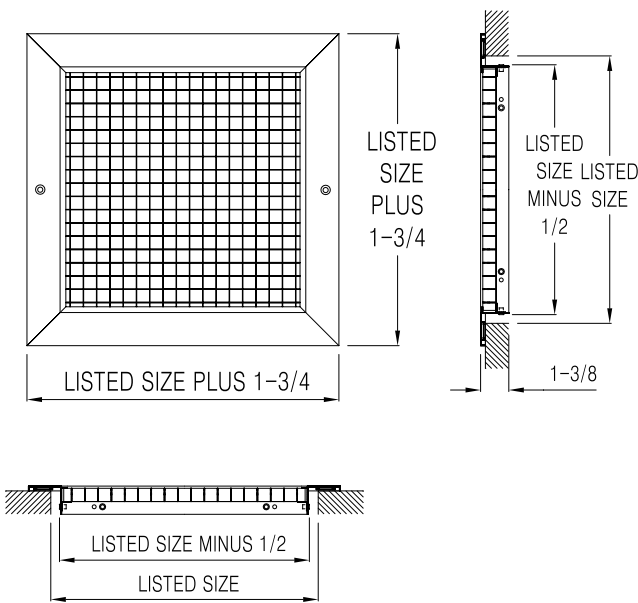


- Extruded aluminum construction
- Vertical front bars
- Adjustable individual bars provide vertical and horizontal deflection control
- Opposed-blade damper for volume control
- Available finish: White

Sidewall/Ceiling Supplies and Returns



- ◉ Extruded aluminum construction
- ◉ 1/2"x1/2"x1/2" grid core
- ◉ Durable coating
- ◉ Available finish: White

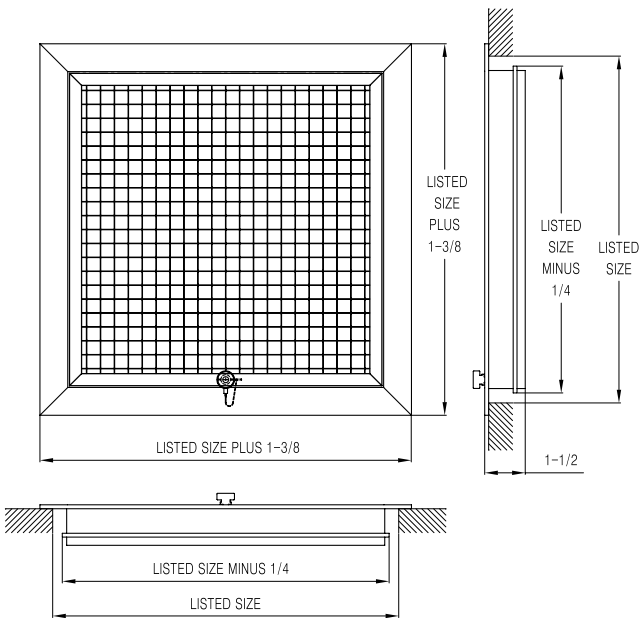
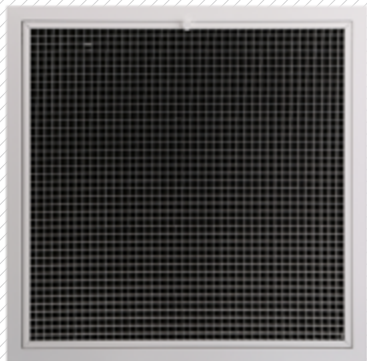


		401202 / 401203 / 401204 / 401205 / 401601 / 401602 / 401603 / 401604 / 402502																							
		Available Sizes (In.)																							
W H		4	5	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48
4		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
5			●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
6				●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
8					●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
10						●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
12							●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
14								●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
16									●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
18										●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
20											●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
22												●	●	●	●	●	●	●	●	●	●	●	●	●	●
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26														●	●	●	●	●	●	●	●	●	●	●	●
28															●	●	●	●	●	●	●	●	●	●	●
30																●	●	●	●	●	●	●	●	●	●
32																	●	●	●	●	●	●	●	●	●
34																		●	●	●	●	●	●	●	●
36																			●	●	●	●	●	●	●
38																				●	●	●	●	●	●
40																					●	●	●	●	●
42																						●	●	●	●
44																							●	●	●
46																								●	●
48																									●

LIGHT COMMERCIAL

Sidewall/Ceiling Supplies and Returns

Aluminum Egg Crate Filter Grille
402501



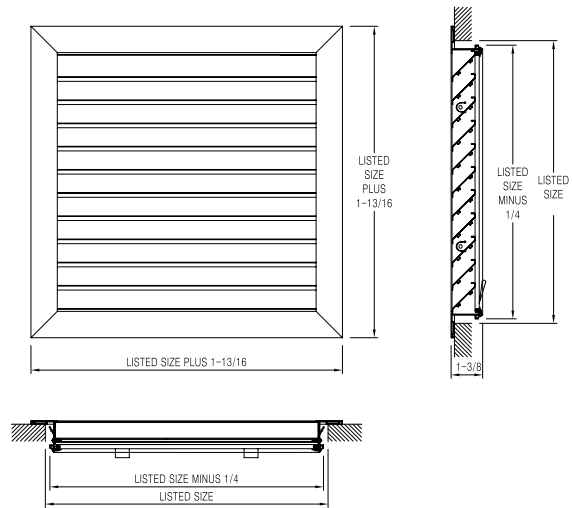
- Extruded aluminum construction
- Available for surface mounting
- 1/2"x1/2"x1/2" grid core
- Use nominal 1" thick filters (not included)
- Durable coating
- Available finish: White

		402501																			
		Available Sizes (In.)																			
W H		10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48
10		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
12			●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
14				●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
16					●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
18						●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
20							●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
22								●	●	●	●	●	●	●	●	●	●	●	●	●	●
24									●	●	●	●	●	●	●	●	●	●	●	●	●
26										●	●	●	●	●	●	●	●	●	●	●	●
28											●	●	●	●	●	●	●	●	●	●	●
30												●	●	●	●	●	●	●	●	●	●
32													●	●	●	●	●	●	●	●	●
34														●	●	●	●	●	●	●	●
36															●	●	●	●	●	●	●
38																●	●	●	●	●	●
40																	●	●	●	●	●

Sidewall/Ceiling Supplies and Returns

Aluminum Weather Resistant Louver

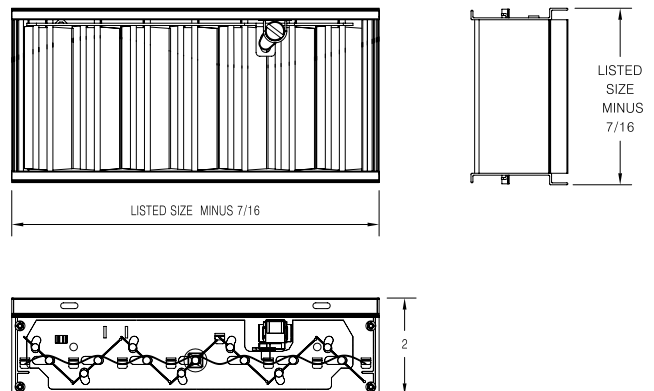
401404



- Extruded aluminum construction
- Fixed Z blade louver
- Blades at 30-degree angle
- Available with nylon filter
- Satin Anodized finish

Aluminum OBD Damper

403202



- Extruded aluminum construction
- Opposed-blade damper for volume control
- Size over 18" available with multiple valve operators
- Accept model 401202, 401203, 401204, 401205 series grilles
- Available finish: Mill finish

LIGHT COMMERCIAL

Sidewall/Ceiling Supplies and Returns

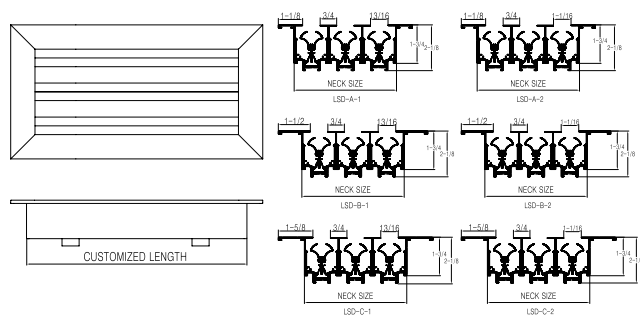
		401404 / 403202																							
		Available Sizes (In.)																							
W H		4	5	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48
4		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
5			●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
6				●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
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10						●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
12							●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
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16									●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
18										●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
20											●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
22												●	●	●	●	●	●	●	●	●	●	●	●	●	●
24													●	●	●	●	●	●	●	●	●	●	●	●	●
26														●	●	●	●	●	●	●	●	●	●	●	●
28															●	●	●	●	●	●	●	●	●	●	●
30																●	●	●	●	●	●	●	●	●	●
32																	●	●	●	●	●	●	●	●	●
34																		●	●	●	●	●	●	●	●
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40																					●	●	●	●	●
42																						●	●	●	●
44																							●	●	●
46																								●	●
48																									●

Sidewall/Ceiling Supplies and Returns

Aluminum Slot Diffuser 401605



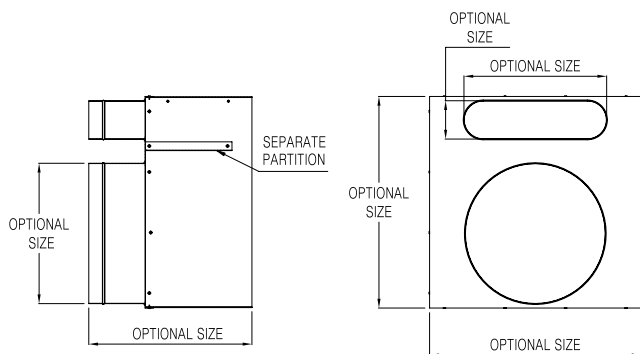
- Extruded aluminum construction
- The directions and air volume can be adjusted by moving pattern controllers.
- Maximum one-piece length 78", length over 78" made in multiple units with keyways splices for even continuous lengths
- Durable coating
- Available finish: White or Satin Anodized finish



401605 Available Sizes (In.)

Model	Neck Size						
	Slot Width	1Slot	2Slot	3Slot	4Slot	5Slot	6Slot
LSD-A-1	13/16	1-9/16	3-1/8	4-5/8	6-3/16	7-3/4	9-1/4
LSD-A-2	1-1/16	1-7/8	3-11/16	5-1/2	5-1/2	9-1/16	10-15/16
LSD-B-1	13/16	1-11/16	3-3/16	4-3/4	6-1/4	7-13/16	9-5/16
LSD-B-2	1-1/16	1-7/8	3-11/16	5-1/2	7-5/16	9-1/16	10-15/16
LSD-C-1	13/16	1-9/16	3-1/8	4-5/8	4-5/8	7-3/4	9-1/4
LSD-C-2	1-1/16	1-15/8	3-3/4	5-9/16	7-3/8	9-3/16	11

Galvanized Distribution Plenum 307102

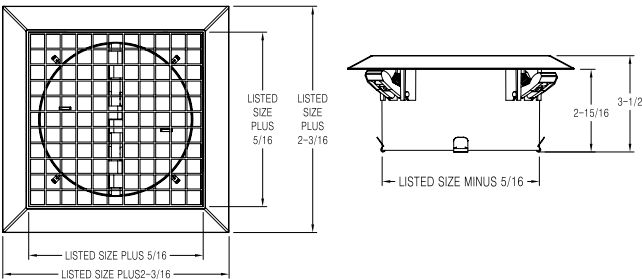
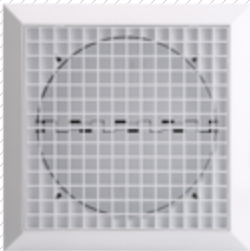


- Galvanized steel construction
- Accept 401202, 401203, 401204, 401205 series grilles
- Available in insulated or noninsulated design

LIGHT COMMERCIAL

Sidewall/Ceiling Supplies and Returns

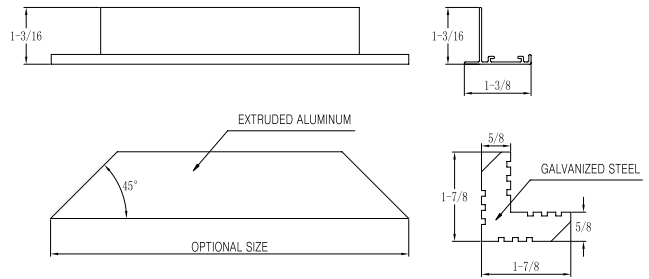
Plastic Egg Crate Grille
401160



- ABS construction
- Easy installation with snap-in clips
- Removable face available for adjustable blade to air volume control
- Available finish: White

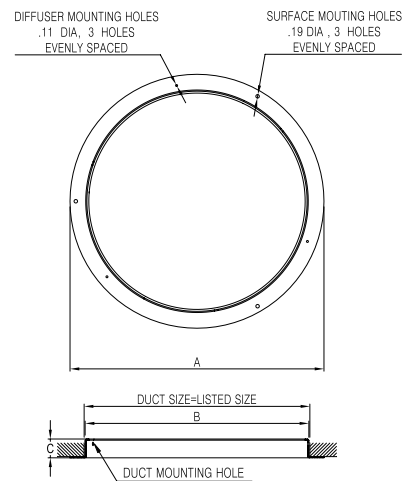
401160 Available Sizes (In.)		
Diameter	06	08
	●	●

Aluminum Diffuser Frame Bar 402501F



- Extruded aluminum construction
- Available galvanized steel corner for easy assembly
- Length would be customized
- One frame with one corner
- Durable coating
- Available finish: White or Mill finish

Steel Duct Ring 403301



- Steel construction
- Snap-in design for easy installation
- Durable coating finish: Brown

403301 Available Sizes (In.)			
Sizes	A	B	C
6	7-9/16	5-15/16	15/16
8	9-1/2	7-7/8	15/16
10	11-1/2	10	1
12	13-1/2	11-15/16	1
14	15	13-15/16	1

T-BAR

67 T-bar Fixed-Pattern Diffusers

- 67 T-Bar Plaque Diffuser
- 67 T-Bar Curved Diffuser
- 68 T-Bar 2-Cone Fixed-Pattern Diffuser
- 71 T-Bar 3-Cone Fixed-Pattern Diffuser

74 T-bar Perforated Supplies and Returns

- 74 T-Bar Aluminum 4-way Perforated Diffuser
- 75 T-Bar Steel Curved Blade Perforated Supply with Collar
- 75 T-Bar Steel perforated Return with Collar
- 76 T-Bar Steel Perforated Return Filter Grille
- 77 T-Bar Steel Perforated Supply Diffuser with Insulation
- 79 T-Bar Steel Perforated Supply Diffuser with Adjustable Deflectors and Insulation
- 81 T-Bar Steel Perforated Return
- 82 T-Bar Steel Perforated Supply Diffuser
- 84 T-Bar Aluminum Egg Crate Filter Grille
- 85 T-Bar Aluminum Egg Crate Return Grille

86 T-bar Lanced Return Grilles

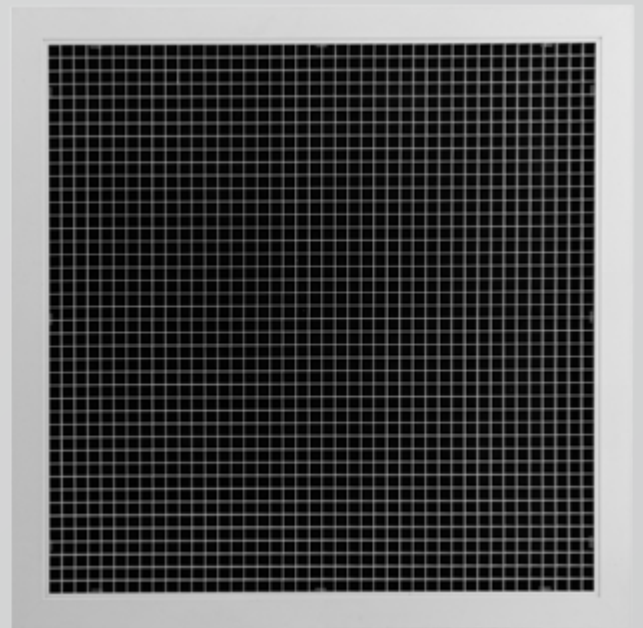
- 86 T-Bar Steel Lanced Return Filter Grille
- 88 T-Bar Deep Filter Frame
- 88 T-Bar Aluminum Return Grille
- 89 T-Bar Aluminum Filter Grille

90 Accessories

- 90 Collar Ring
- 90 Butterfly Damper
- 91 R6 Molded Fiberglass Back



▲ T-bar Fixed-Pattern Diffusers



▲ T-bar Perforated Supplies and Returns

▼ T-bar Lanced Return Grilles



T-BAR

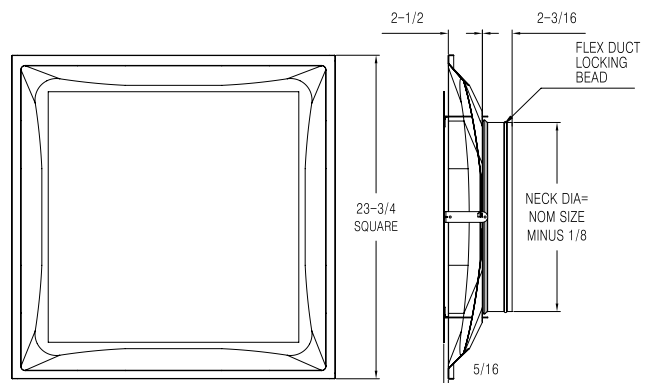
T-bar Fixed-Pattern Diffusers

T-Bar Plaque Diffuser

402215C



- Steel construction
- Use for T-bar ceiling
- Aesthetically appealing, single -face plate design
- Fixed collar 6" to 14"
- Overall size 23-3/4" x 23-3/4" (24"x24" openings)
- White durable finish



402215C Available Sizes (In.)

Overall Size 23-3/4" x 23-3/4"

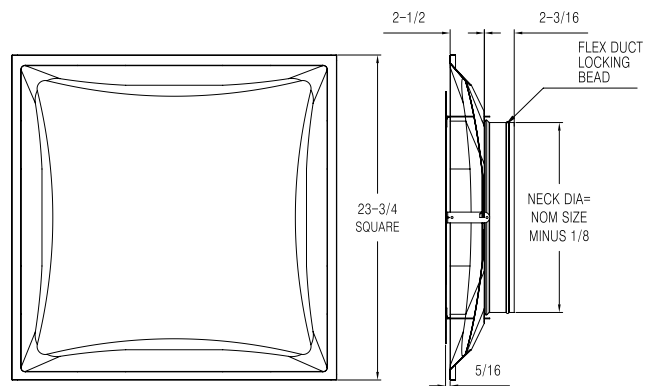
Collar Sizes 6" 8" 10" 12" 14"

T-Bar Curved Diffuser

402215C



- Steel construction
- Use for T-bar ceiling
- Aesthetically appealing, single -face plate design
- Fixed collar 6" to 14"
- Overall size 23-3/4"x23-3/4" (24"x24" openings)
- White durable finish



402215C Available Sizes (In.)

Overall Size 23-3/4" x 23-3/4"

Collar Sizes 6" 8" 10" 12" 14"

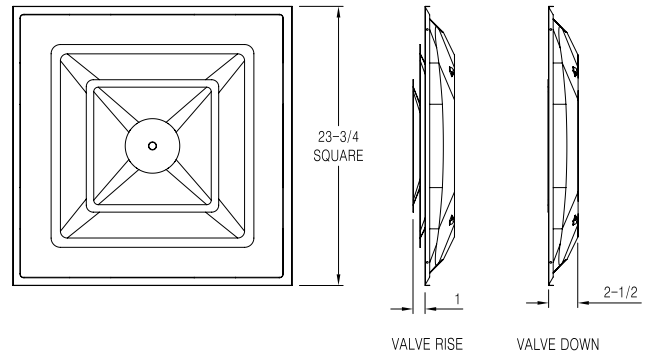
T-bar Fixed-Pattern Diffusers

T-Bar 2-Cone Fixed-Pattern Diffuser without Collar and Insulation

402601



- Steel construction
- Use for T-bar ceiling
- Two-cone fixed core
- 360-degree air diffusion
- Can match insulation
- Accept model #403302 snap-in collar ring (6"-14")
- Overall size 23-3/4" x 23-3/4" (24" x 24" openings)
- White durable finish



402601 Available Sizes (In.)

Overall Size 23-3/4" x 23-3/4"

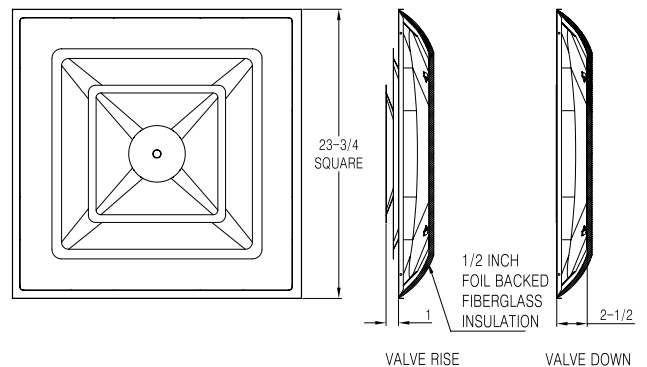
Collar Sizes 6" 8" 10" 12" 14"

T-Bar 2-Cone Fixed-Pattern Diffuser without Collar, with Insulation

402601I



- Steel construction
- Use for T-bar ceiling
- Two-cone fixed core
- With insulation
- 360-degree air diffusion
- Accept model #403302 snap-in collar ring (6"-14")
- Overall size 23-3/4" x 23-3/4" (24" x 24" openings)
- White durable finish



402601I Available Sizes (In.)

Overall Size 23-3/4" x 23-3/4"

Collar Sizes 6" 8" 10" 12" 14"

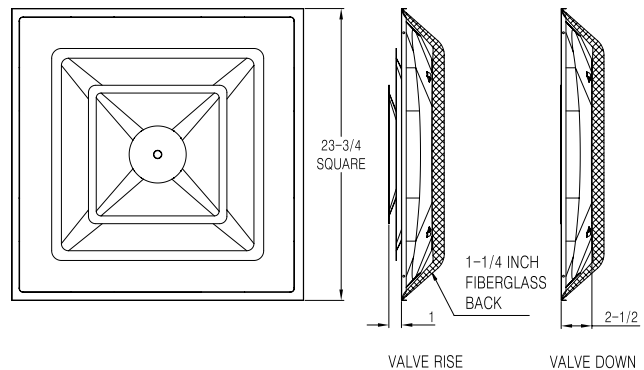
T-BAR

T-bar Fixed-Pattern Diffusers

**T-Bar 2-Cone Fixed-Pattern Diffuser
without Collar, with R6 Insulation**
402601R6



- Steel construction
- Use for T-bar ceiling
- Two-cone fixed core
- With R6 insulation
- 360-degree air diffusion
- Accept model #403302 snap-in collar ring (6"-14")
- Overall size 23-3/4" x 23-3/4" (24" x 24" openings)
- White durable finish



402601R6 Available Sizes (In.)

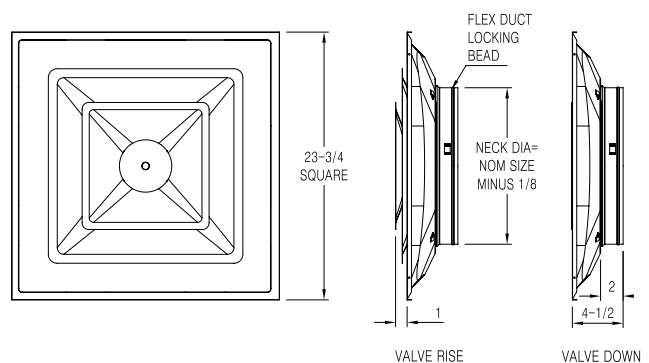
Overall Size 23-3/4" x 23-3/4"

Collar Sizes 6" 8" 10" 12" 14"

**T-Bar 2-Cone Fixed-Pattern Diffuser
with Collar**
402602C



- Steel construction
- Use for T-bar ceiling
- Two-cone fixed core
- 360-degree air diffusion
- Can match insulation
- Fixed collar 6" to 14"
- Accept model #403101 butterfly damper (6"-14")
- Overall size 23-3/4" x 23-3/4" (24" x 24" openings)
- White durable finish



402602C Available Sizes (In.)

Overall Size 23-3/4" x 23-3/4"

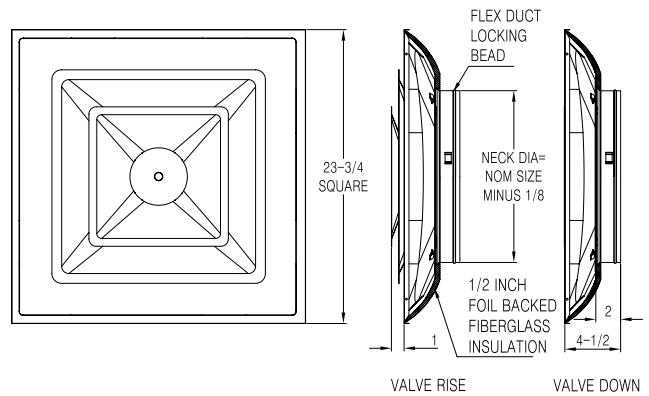
Collar Sizes 6" 8" 10" 12" 14"

T-bar Fixed-Pattern Diffusers

T-Bar Steel 2-Cone Fixed-Pattern Diffuser with Collar and Insulation
402413CI



- Steel construction
- Use for T-bar ceiling
- Two-cone fixed core
- Fixed collar 6" to 14"
- 360-degree air diffusion
- With insulation
- Accept model #403301 butterfly damper
- Overall size 23-3/4" x 23-3/4" (24" x 24" openings)
- White durable finish



402413CI Available Sizes (In.)

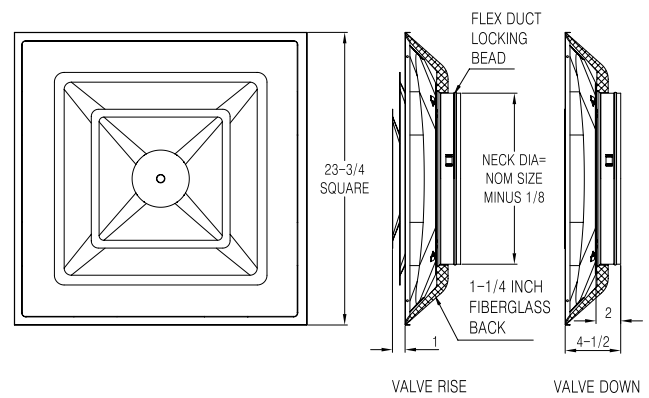
Overall Size 23-3/4" x 23-3/4"

Collar Sizes 6" 8" 10" 12" 14"

T-Bar Steel 2-Cone Fixed-Pattern Diffuser with Collar and R6 Insulation
402413CR6



- Steel construction
- Use for T-bar ceiling
- Two-cone fixed core
- Fixed collar 6" to 14"
- 360-degree air diffusion
- With R6 insulation
- Accept model #403101 butterfly damper (6"-14")
- White durable finish



402413CR6 Available Sizes (In.)

Overall Size 23-3/4" x 23-3/4"

Collar Sizes 6" 8" 10" 12" 14"

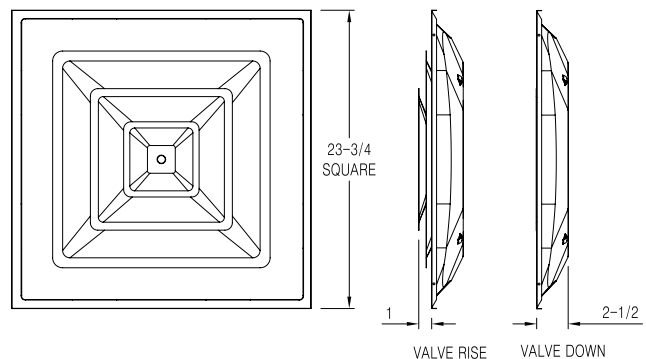
T-BAR

T-bar Fixed-Pattern Diffusers

T-Bar Steel 3-Cone Fixed-Pattern Diffuser without Collar and Insulation
402603



- Steel construction
- Use for T-bar ceiling
- Three-cone fixed core
- Can match insulation
- 360-degree air diffusion
- Accept model #403302 snap in collar ring (6"-14")
- Overall size 23-3/4" x 23-3/4" (24" x 24" openings)
- White durable finish

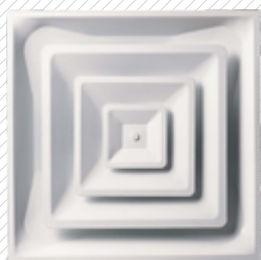


402603 Available Sizes (In.)

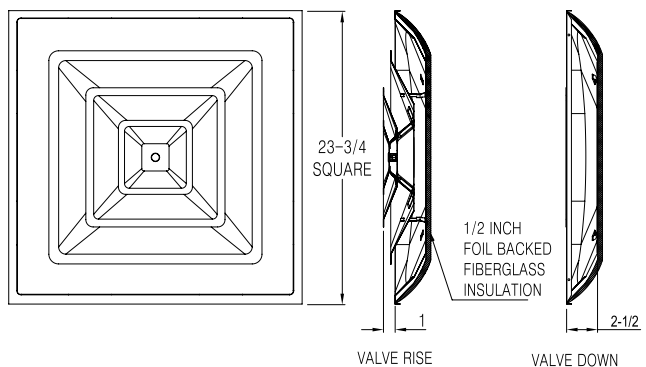
Overall Size 23-3/4" x 23-3/4"

Collar Sizes 6" 8" 10" 12" 14"

T-Bar Steel 3-Cone Fixed-Pattern Diffuser without Collar, with Insulation
402603I



- Steel construction
- Use for T-bar ceiling
- Three-cone fixed core
- 360-degree air diffusion
- With insulation
- Accept model #403302 snap in collar ring (6"-14")
- Overall size 23-3/4" x 23-3/4" (24" x 24" openings)
- White durable finish



402603I Available Sizes (In.)

Overall Size 23-3/4" x 23-3/4"

Collar Sizes 6" 8" 10" 12" 14"

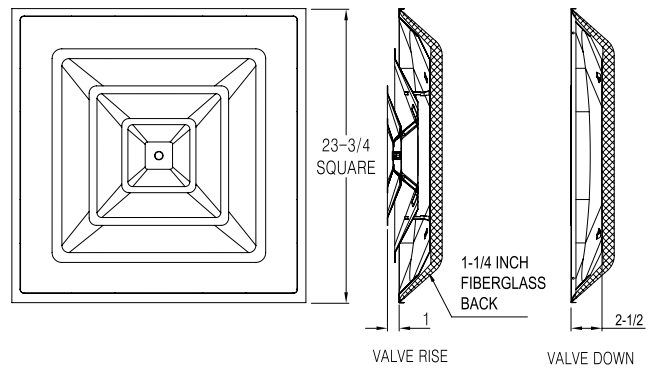
T-bar Fixed-Pattern Diffusers

T-Bar Steel 3-Cone Fixed-Pattern Diffuser without Collar, with R6 Insulation

402603R6



- Steel construction
- Use for T-bar ceiling
- Three-cone fixed core
- 360-degree air diffusion
- With R6 insulation
- Accept model #403302 snap in collar ring (6"-14")
- Overall size 23-3/4" x 23-3/4" (24" x 24" openings)
- White durable finish



402603R6 Available Sizes (In.)

Overall Size 23-3/4" x 23-3/4"

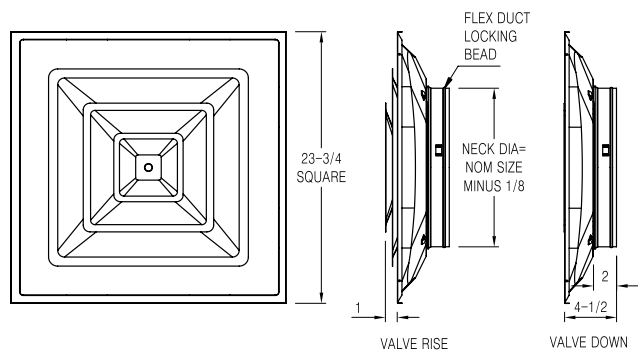
Collar Sizes 6" 8" 10" 12" 14"

T-Bar Steel 3-Cone Fixed-Pattern Diffuser with Collar

402604C



- Steel construction
- Use for T-Bar ceiling
- Three-cone fixed core
- 360-degree air diffusion
- Can match insulation
- Accept model #403101 butterfly damper (6"-14")
- Overall size 23-3/4" x 23-3/4" (24" x 24" openings)
- Fixed collar 6" to 14"
- White durable finish



402604C Available Sizes (In.)

Overall Size 23-3/4" x 23-3/4"

Collar Sizes 6" 8" 10" 12" 14"

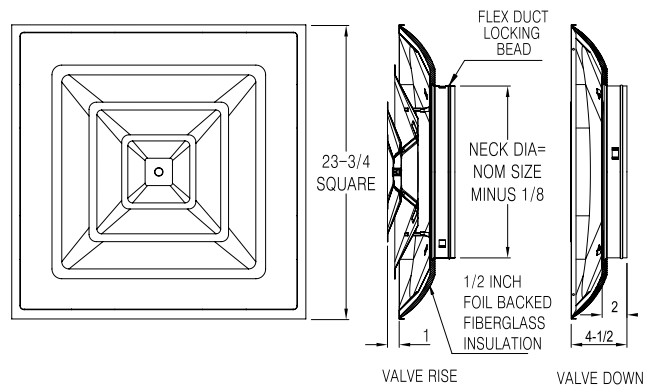
T-BAR

T-bar Fixed-Pattern Diffusers

T-Bar Steel 3-Cone Fixed -Pattern Diffuser with Collar and Insulation
402414CI



- Steel construction
- Use for T-bar ceiling
- With insulation
- Three-cone fixed core
- Fixed collar 6" to 14"
- 360-degree air diffusion
- Accept model #403101 butterfly damper (6"-14")
- Overall size 23-3/4" x 23-3/4" (24" x 24" openings)
- White durable finish



402414CI Available Sizes (In.)

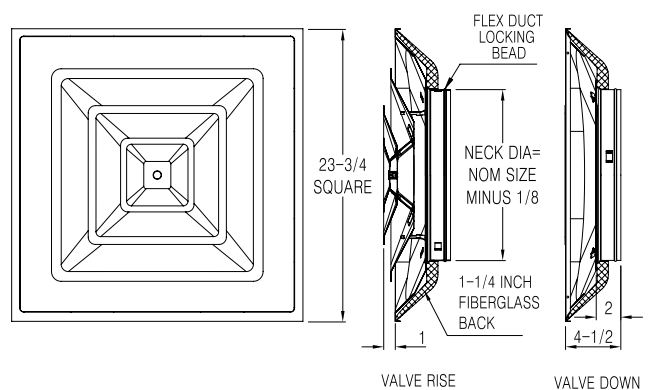
Overall Size 23-3/4" x 23-3/4"

Collar Sizes 6" 8" 10" 12" 14"

T-Bar Steel 3-Cone Fixed -Pattern Diffuser with Collar and R6 Insulation
402414CR6



- Steel construction
- Use for T-bar ceiling
- With R6 insulation
- Three-cone fixed core
- 360-degree air diffusion
- Accept model #403101 butterfly damper (6"-14")
- Overall size 23-3/4" x 23-3/4" (24" x 24" openings)
- White durable finish



402414CR6 Available Sizes (In.)

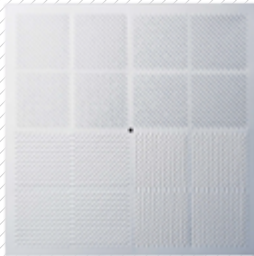
Overall Size 23-3/4" x 23-3/4"

Collar Sizes 6" 8" 10" 12" 14"

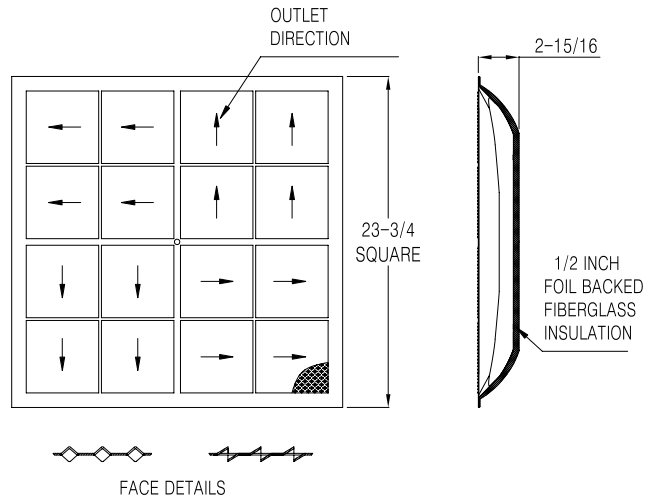
T-bar Perforated Supplies and Returns

T-Bar Aluminum 4-way Perforated Diffuser with Insulation

402306I



- ◉ Stamped aluminum face
- ◉ Use for T-bar ceiling
- ◉ Four-way, perforated faceplate
- ◉ With insulation
- ◉ Overall size 23-3/4" x 23-3/4" (24" x 24" openings)
- ◉ Accept model #403302 snap-in collar ring (6"-14")
- ◉ Formed metal back panel
- ◉ White durable finish



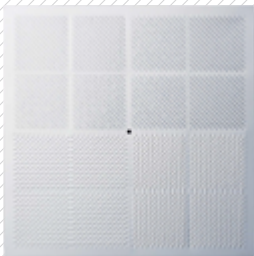
402306I Available Sizes (In.)

Overall Size 23-3/4" x 23-3/4"

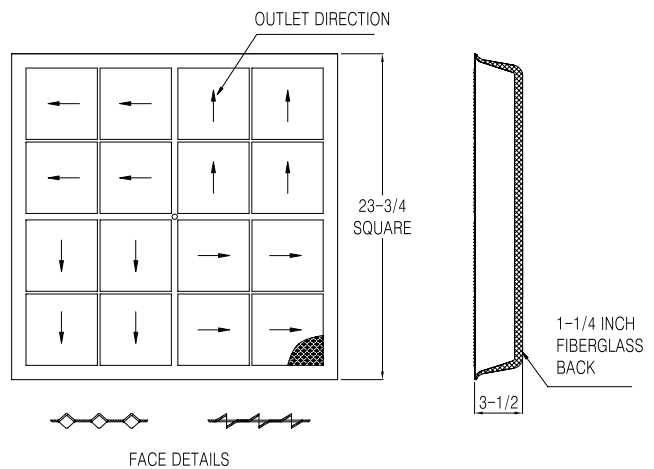
Collar Sizes 6" 8" 10" 12" 14"

T-Bar Aluminum 4-way Perforated Diffuser with R6 Insulation

402403R6



- ◉ Stamped aluminum face
- ◉ Use for T-bar ceiling
- ◉ Four-way, perforated faceplate
- ◉ With R6 insulation
- ◉ Overall size 23-3/4" x 23-3/4" (24" x 24" openings)
- ◉ White durable finish



402403R6 Available Sizes (In.)

Overall Size 23-3/4" x 23-3/4"

T-BAR

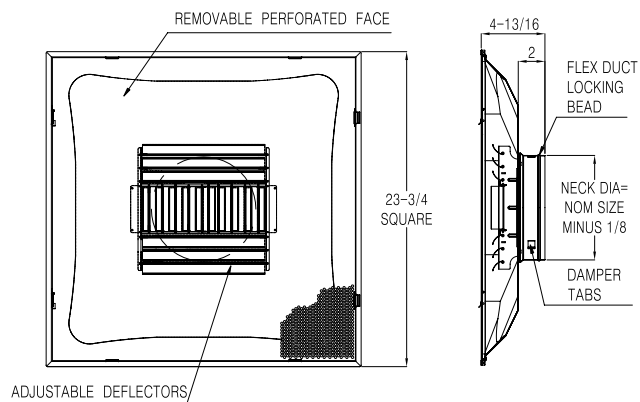
T-bar Perforated Supplies and Returns

T-Bar Steel Curved Blade Perforated Supply with Collar

402307C



- Steel construction
- Use for T-bar ceiling
- Four-way, perforated faceplate
- Adjustable curved-blade deflectors
- Removable hinged face for easy air flow adjustment and cleaning
- Formed metal back panel
- Fixed collar 6" to 14"
- Accept model #403101 butterfly damper (6"-14")
- Overall size 23-3/4" x 23-3/4" (24" x 24" openings)
- White durable finish



402307C Available Sizes (In.)

Overall Size 23-3/4" x 23-3/4"

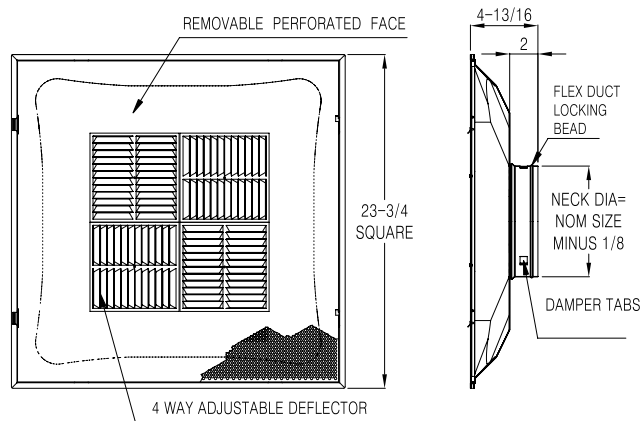
Collar Sizes 6" 8" 10" 12" 14"

T-Bar Steel Perforated Return with Fixed Collar

402308C



- Steel construction
- Use for T-bar ceiling
- Perforated faceplate
- Adjustable deflectors
- Removable hinged face for easy air flow adjustment and cleaning
- Overall size 23-3/4" x 23-3/4" (24" x 24" openings)
- Accept model #403101 butterfly damper (6"-14")
- Fixed collar 6" to 14"
- Formed metal back panel
- White durable finish



402308C Available Sizes (In.)

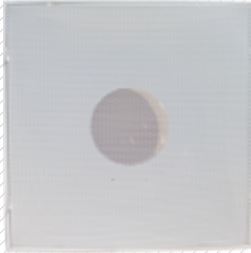
Overall Size 23-3/4" x 23-3/4"

Collar Sizes 6" 8" 10" 12" 14"

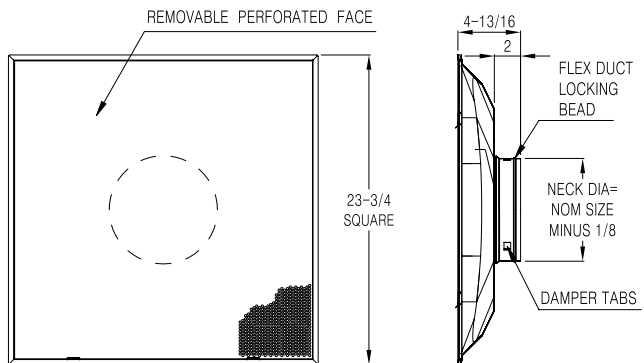
T-bar Perforated Supplies and Returns

T-Bar Steel Perforated Return with Fixed Collar

402214C



- Steel construction
- Use for T-bar ceiling
- Perforated faceplate
- Removable hinged face for easy air flow adjustment and cleaning
- Overall size 23-3/4" x 23-3/4" (24" x 24" openings)
- Accept model #403101 butterfly damper (6"-14")
- Fixed collar 6" to 14"
- Formed metal back panel
- White durable finish



402214C Available Sizes (In.)

Overall Size 23-3/4" x 23-3/4"

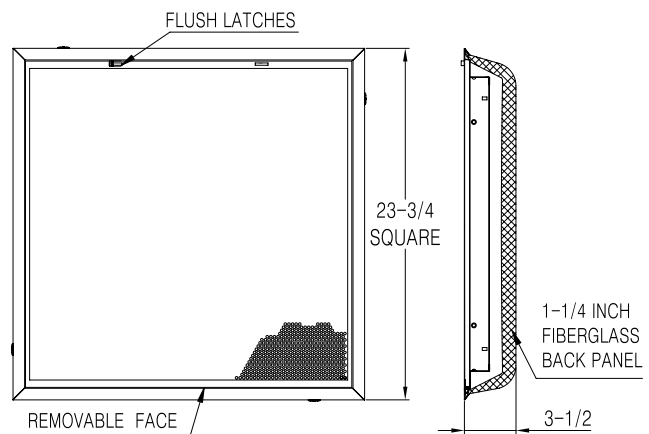
Collar Sizes 6" 8" 10" 12" 14"

T-Bar Steel Perforated Return Filter Grille with R6 Insulation

402411R6



- Steel construction
- Use for T-bar ceiling
- Perforated faceplate
- Overall size 23-3/4" x 23-3/4" (24" x 24" openings)
- Removable hinged face for easy air flow adjustment and cleaning
- Use nominal 1" thick filters (not included)
- With R6 insulation
- White durable finish



402411R6 Available Sizes (In.)

Overall Size 23-3/4" x 23-3/4"

T-BAR

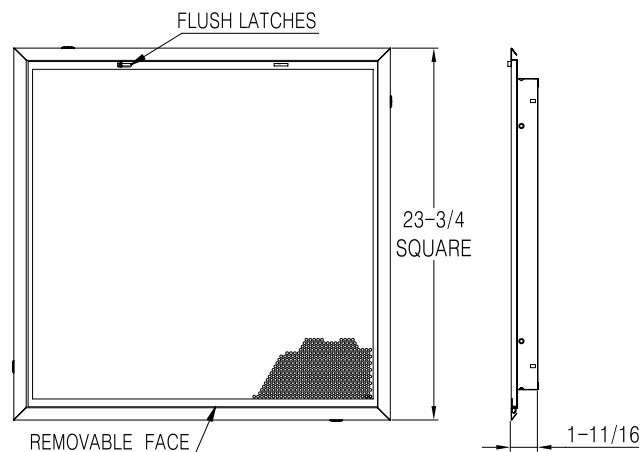
T-bar Perforated Supplies and Returns

T-Bar Steel Perforated Return Filter Grille

402412



- Steel construction
- Use for T-bar ceiling
- Perforated faceplate
- Removable hinged face for easy installation and cleaning
- Use nominal 1" thick filters (not included)
- Overall size 23-3/4" x 23-3/4" (24" x 24" openings)
- White durable finish



402412 Available Sizes (In.)

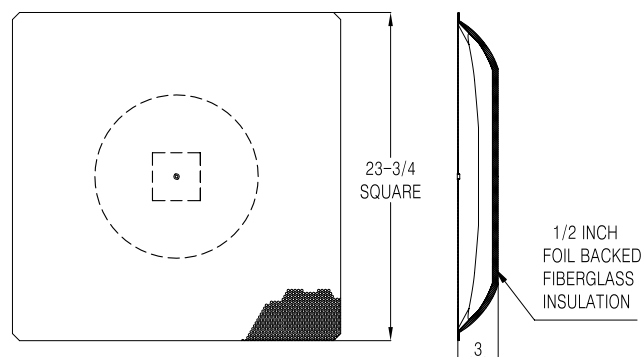
Overall Size 23-3/4" x 23-3/4"

T-Bar Steel Perforated Supply Diffuser with Fixed Deflector and Insulation

402408I



- Steel construction
- Use for T-bar ceiling
- Perforated faceplate
- Fixed deflector
- Overall size 23-3/4" x 23-3/4" (24" x 24" openings)
- Accept model #403302 snap-in collar ring (6"-14")
- With insulation
- Formed metal back panel
- White durable finish



402408I Available Sizes (In.)

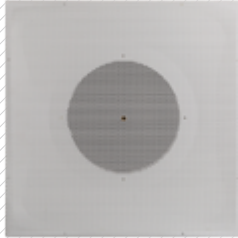
Overall Size 23-3/4" x 23-3/4"

Collar Sizes 6" 8" 10" 12" 14"

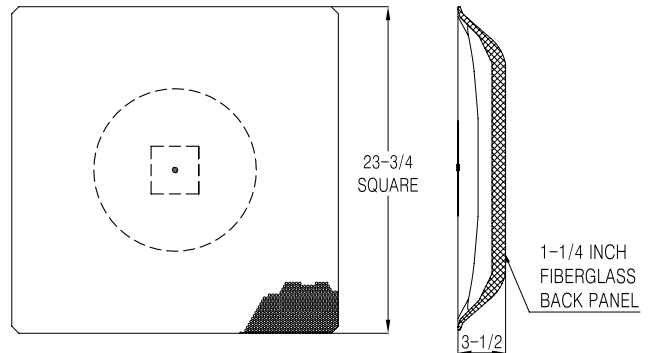
T-bar Perforated Supplies and Returns

T-Bar Steel Perforated Supply Diffuser with R6 Insulation

402408BPR6



- Steel construction
- Use for T-Bar ceiling
- Perforated faceplate
- Fixed square deflector
- With R6 insulation
- Formed metal back panel
- Overall size 23-3/4" x 23-3/4" (24" x 24" openings)
- Accept model #403302 snap-in collar ring (6"-14")
- White durable finish



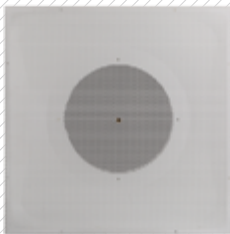
402408BPR6 Available Sizes (In.)

Overall Size 23-3/4" x 23-3/4"

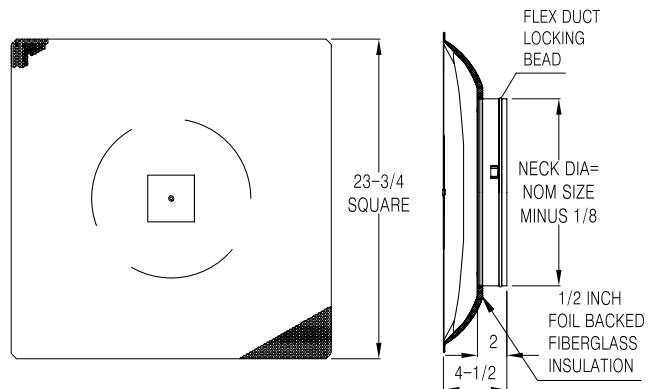
Collar Sizes 6" 8" 10" 12" 14"

T-Bar Steel Perforated Supply Diffuser with Collar and Insulation

402408CI



- Steel construction
- Use for T-bar ceiling
- Perforated faceplate
- Fixed deflector
- With insulation
- Overall size 23-3/4" x 23-3/4" (24" x 24" openings)
- Accept model #403101 butterfly damper (6"-14")
- Formed metal back panel
- White durable finish



402408CI Available Sizes (In.)

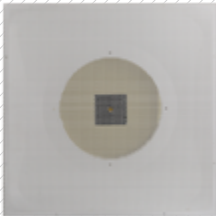
Overall Size 23-3/4" x 23-3/4"

Collar Sizes 6" 8" 10" 12" 14"

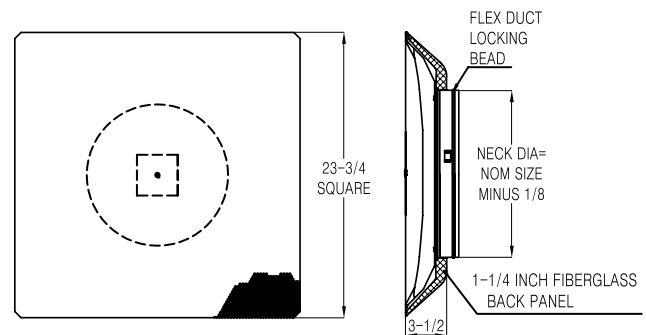
T-BAR

T-bar Perforated Supplies and Returns

T-Bar Steel Perforated Supply Diffuser with Collar and R6 Insulation
402408CR6



- Steel construction
- Use for T-Bar ceiling
- Perforated faceplate
- Fixed square deflector
- With R6 insulation
- Formed metal back panel
- Overall size 23-3/4" x 23-3/4" (24" x 24" openings)
- Accept model #403101 butterfly damper (6"-14")
- White durable finish

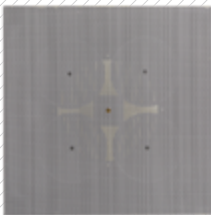


402408CR6 Available Sizes (In.)

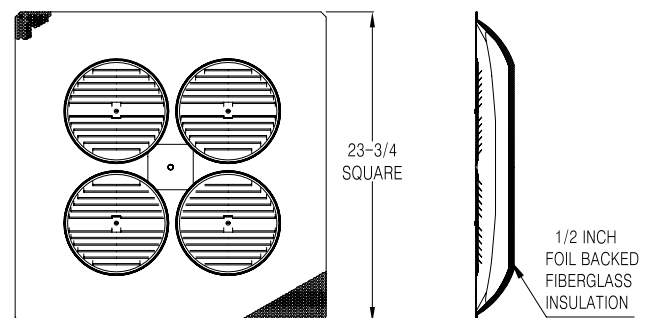
Overall Size 23-3/4" x 23-3/4"

Collar Sizes 6" 8" 10" 12" 14"

T-Bar Steel Perforated Supply Diffuser with Adjustable Deflectors and Insulation
402408ADWI



- Steel construction
- Use for T-bar ceiling
- Perforated faceplate
- Adjustable round deflectors
- With insulation
- Formed metal back panel
- Accept model #403302 snap-in collar ring (6"-14")
- Overall size 23-3/4" x 23-3/4" (24" x 24" openings)
- White durable finish



402408ADWI Available Sizes (In.)

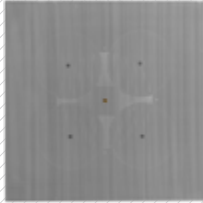
Overall Size 23-3/4" x 23-3/4"

Collar Sizes 6" 8" 10" 12" 14"

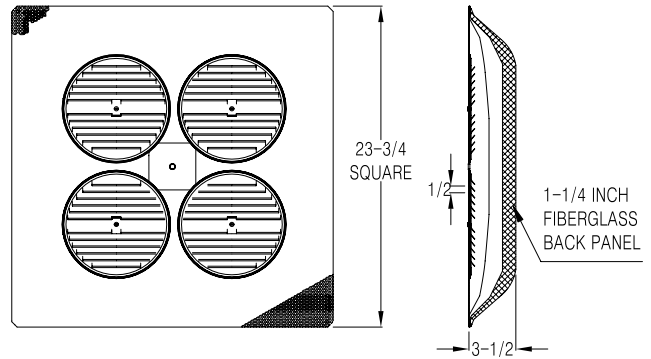
T-bar Perforated Supplies and Returns

T-Bar Steel Perforated Supply Diffuser with Adjustable Deflectors and R6 Insulation

402408ADWR6



- Steel construction
- Use for T-bar ceiling
- Perforated faceplate
- Adjustable round deflectors
- With R6 insulation
- Formed metal back panel
- Accept model #403302 snap-in collar ring (6"-14")
- Overall size 23-3/4" x 23-3/4" (24" x 24" openings)
- White durable finish



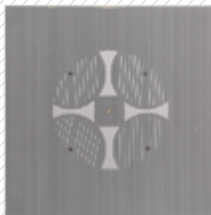
402408ADWR6 Available Sizes (In.)

Overall Size 23-3/4" x 23-3/4"

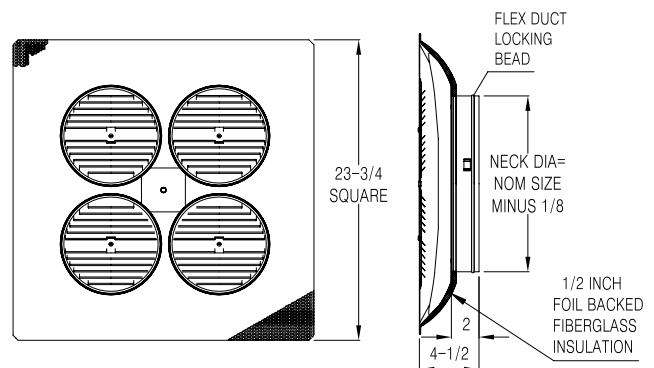
Collar Sizes 6" 8" 10" 12" 14"

T-Bar Perforated Supply Diffuser with Adjustable Deflectors Collar and Insulation

402408ADCWI



- Steel construction
- Use for T-bar ceiling
- Perforated faceplate
- Adjustable round deflectors
- With insulation
- Formed metal back panel
- Accept model #403101 butterfly damper (6"-14")
- Overall size 23-3/4" x 23-3/4" (24" x 24" openings)
- White durable finish



402408ADCWI Available Sizes (In.)

Overall Size 23-3/4" x 23-3/4"

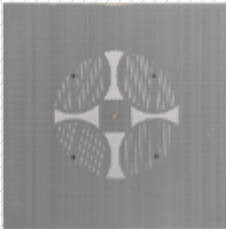
Collar Sizes 6" 8" 10" 12" 14"

T-BAR

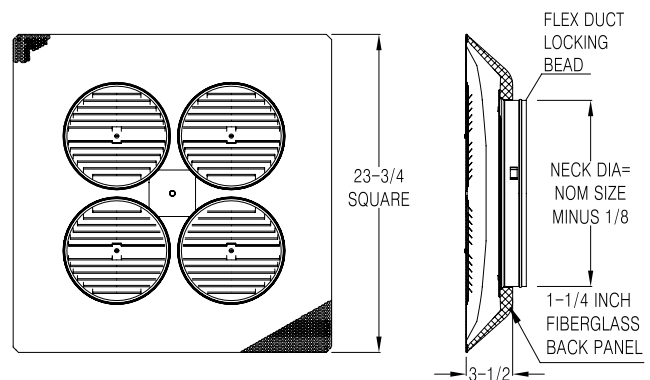
T-bar Perforated Supplies and Returns

T-Bar Perforated Supply Diffuser with Adjustable Deflectors Collar and R6 Insulation

402408ADCWR6



- Steel construction
- Use for T-Bar ceiling
- Perforated faceplate
- Adjustable round deflectors
- With R6 insulation
- Formed metal back panel
- Accept model #403101 butterfly damper (6"-14")
- Overall size 23-3/4" x 23-3/4" (24" x 24" openings)
- White durable finish



402408ADCWR6 Available Sizes (In.)

Overall Size 23-3/4" x 23-3/4"

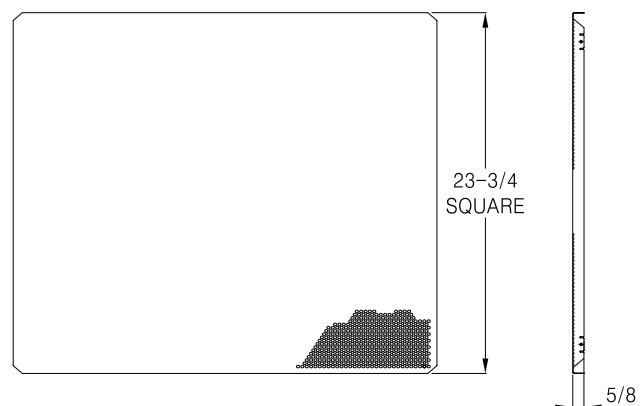
Collar Sizes 6" 8" 10" 12" 14"

T-Bar Steel Perforated Face Only

402409



- Steel construction
- Use for T-Bar ceiling
- Perforated faceplate
- Overall size 23-3/4" x 23-3/4" (24" x 24" openings)
- White durable finish



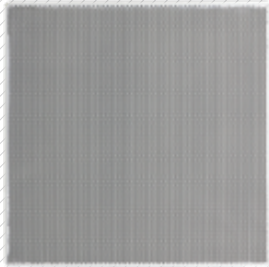
402409 Available Sizes (In.)

Overall Size 23-3/4" x 23-3/4"

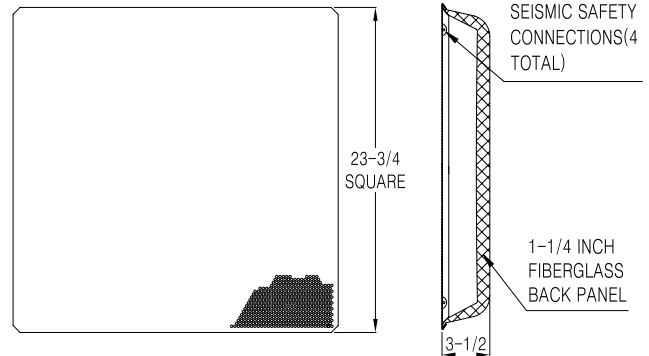
T-bar Perforated Supplies and Returns

T-Bar Steel Perforated Return with R6 Insulation

402409R6



- Steel construction
- Use for T-Bar ceiling
- Perforated faceplate
- With R6 insulation
- Overall size 23-3/4" x 23-3/4" (24" x 24" openings)
- White durable finish

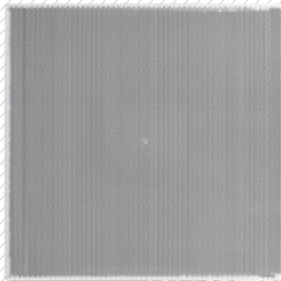


402409R6 Available Sizes (In.)

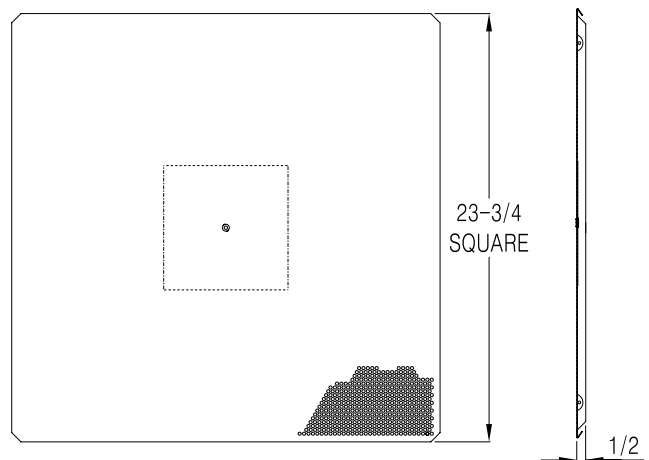
Overall Size 23-3/4" x 23-3/4"

T-Bar Steel Perforated Supply Diffuser

402211



- Steel construction
- Use for T-Bar ceiling
- Perforated faceplate
- Fixed square deflector
- Overall size 23-3/4" x 23-3/4" (24" x 24" openings)
- White durable finish



402211 Available Sizes (In.)

Overall Size 23-3/4" x 23-3/4"

T-BAR

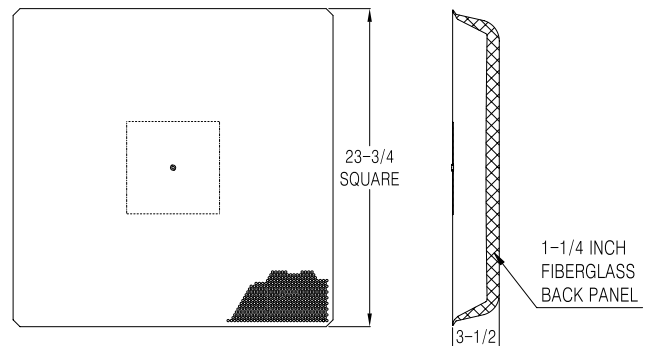
T-bar Perforated Supplies and Returns

T-Bar Steel Perforated Supply Diffuser with R6 Insulation

402408R6



- Steel construction
- Use for T-Bar ceiling
- Perforated faceplate
- Fixed square deflector
- With R6 insulation
- Overall size 23-3/4" X 23-3/4" (24" X 24" openings)
- White durable finish

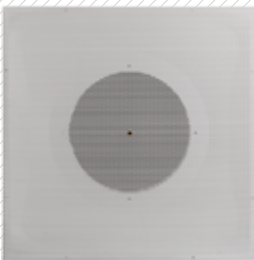


402408R6 Available Sizes (In.)

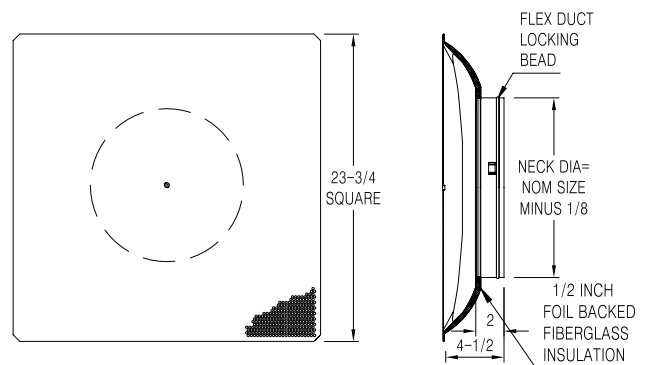
Overall Size 23-3/4" x 23-3/4"

T-Bar Steel Perforated Supply Diffuser with Fixed Deflector with Collar and Insulation

402310CI



- Steel construction
- Use for T-bar ceiling
- Perforated faceplate
- Fixed deflector
- With insulation
- Formed metal back panel
- Overall size 23-3/4" x 23-3/4" (24" x 24" openings)
- Accept model #403101 butterfly damper (6"-14")
- White durable finish



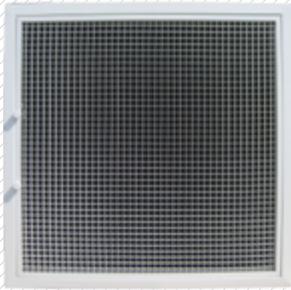
402310CI Available Sizes (In.)

Overall Size 23-3/4" x 23-3/4"

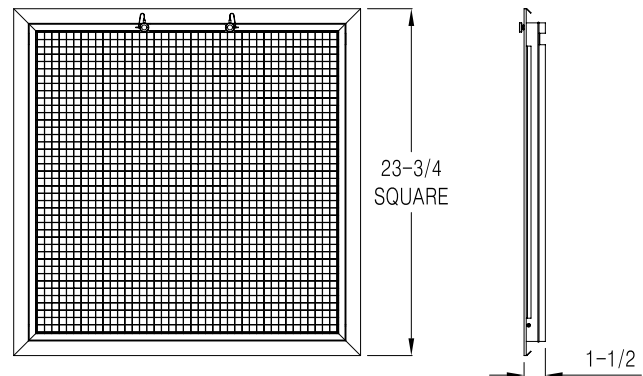
Collar Sizes 6" 8" 10" 12" 14"

T-bar Perforated Supplies and Returns

T-Bar Aluminum Egg Crate Filter Grille
402501T



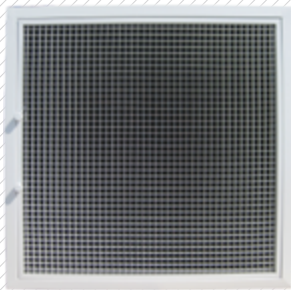
- Aluminum construction
- Use for T-bar ceiling
- 1/2" grid core
- Hinged on the bottom edge, face is removable
- Overall size 23-3/4" x 23-3/4" (24" x 24" openings)
- White durable finish



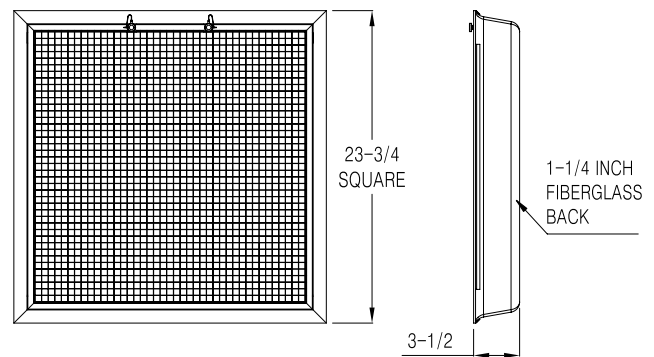
402501T Available Sizes (In.)

Overall Size 23-3/4" x 23-3/4"

T-Bar Aluminum Egg Crate Filter Grille with R6 Insulation
402501R6



- Aluminum construction
- Use for T-bar ceiling
- 1/2" grid core
- With R6 insulation
- Hinged on the bottom edge, face is removable
- Overall size 23-3/4" x 23-3/4" (24" x 24" openings)
- White durable finish



402501R6 Available Sizes (In.)

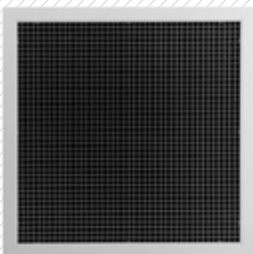
Overall Size 23-3/4" x 23-3/4"

T-BAR

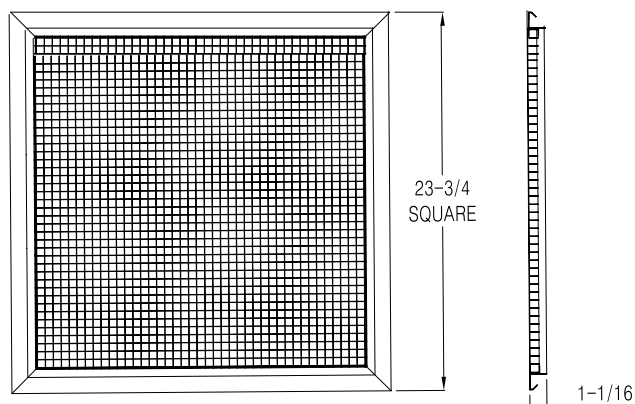
T-bar Perforated Supplies and Returns

Aluminum Egg Crate Return Grille

402503



- Aluminum construction
- Use for T-bar ceiling
- 1/2" grid core
- Can match R6 insulation
- Overall size 23-3/4" x 23-3/4" (24" x 24" openings)
- White durable finish

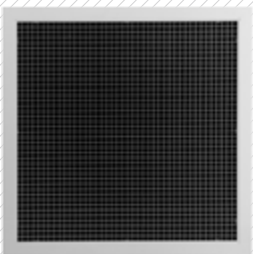


402503 Available Sizes (In.)

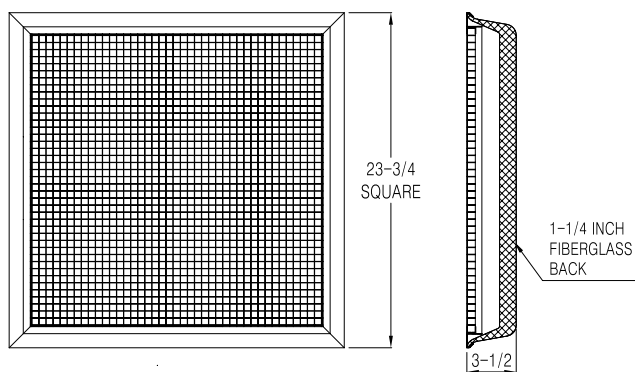
Overall Size 23-3/4" x 23-3/4"

T-Bar Aluminum Egg Crate Return Grille with R6 Insulation

402503R6



- Aluminum construction
- Use for T-bar ceiling
- 1/2" grid core
- With R6 insulation
- Overall size 23-3/4" x 23-3/4" (24" x 24" openings)
- White durable finish



402503R6 Available Sizes (In.)

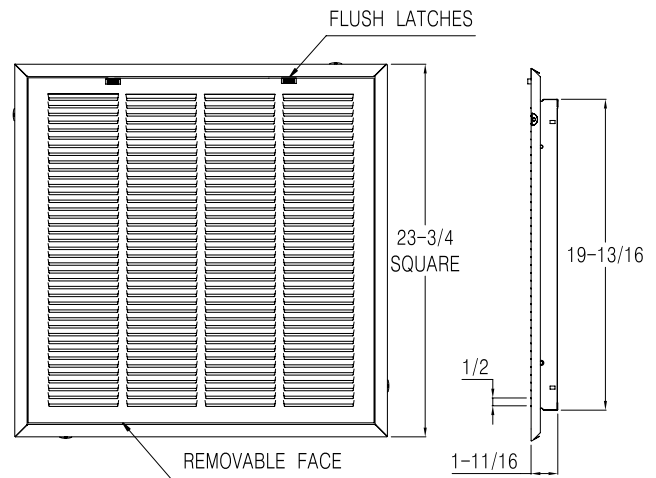
Overall Size 23-3/4" x 23-3/4"

T-bar Lanced Return Grilles

T-Bar Steel Lanced Return Filter Grille
402208



- Steel construction
- Use for T-Bar ceiling
- 1/2" spaced fins
- Lanced faceplate
- Removable hinged face for easy installation and cleaning
- Use nominal 1" thick filters (not included)
- Overall size 23-3/4" x 23-3/4" (24" x 24" openings)
- White durable finish



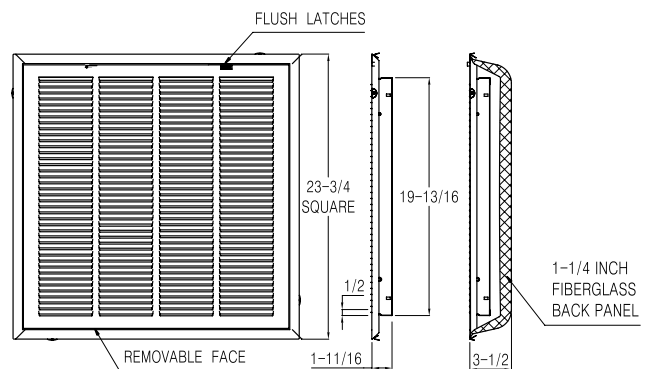
402208 Available Sizes (In.)

Overall Size 23-3/4" x 23-3/4"

T-Bar Steel Lanced Return Filter Grille with R6 Insulation
402208R6



- Steel construction
- Use for T-Bar ceiling
- 1/2" spaced fins
- Lanced faceplate
- Removable hinged face for easy installation and cleaning
- Use nominal 1" thick filters (not included)
- Overall size 23-3/4" x 23-3/4" (24" x 24" openings)
- With R6 insulation
- White durable finish



402208R6 Available Sizes (In.)

Overall Size 23-3/4" x 23-3/4"

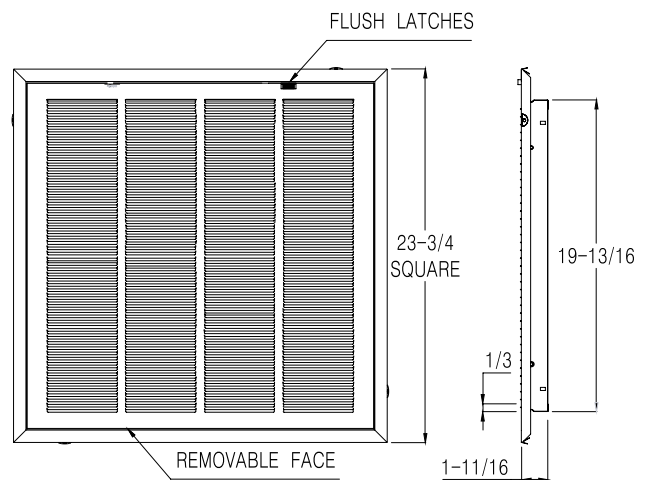
T-BAR

T-bar Lanced Return Grilles

T-Bar Steel Lanced Return Filter Grille
402210



- Steel construction
- Use for T-Bar ceiling
- 1/3" spaced fins
- Lanced faceplate
- Removable hinged face for easy installation and cleaning
- Use nominal 1" thick filters (not included)
- Overall size 23-3/4" x 23-3/4" (24" x 24" openings)
- White durable finish



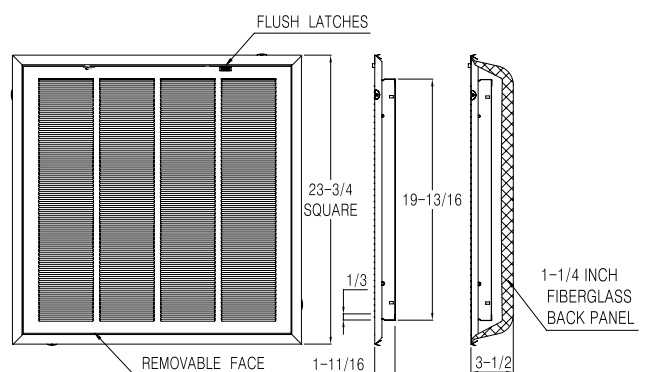
402210 Available Sizes (In.)

Overall Size 23-3/4" x 23-3/4"

T-Bar Steel Lanced Return Filter Grille with R6 Insulation
402210R6



- Steel construction
- Use for T-Bar ceiling
- 1/3" spaced fins
- Lanced faceplate
- Removable hinged face for easy installation and cleaning
- Use nominal 1" thick filters (not included)
- Overall size 23-3/4" x 23-3/4" (24" x 24" openings)
- With R6 insulation
- White durable finish



402210R6 Available Sizes (In.)

Overall Size 23-3/4" x 23-3/4"

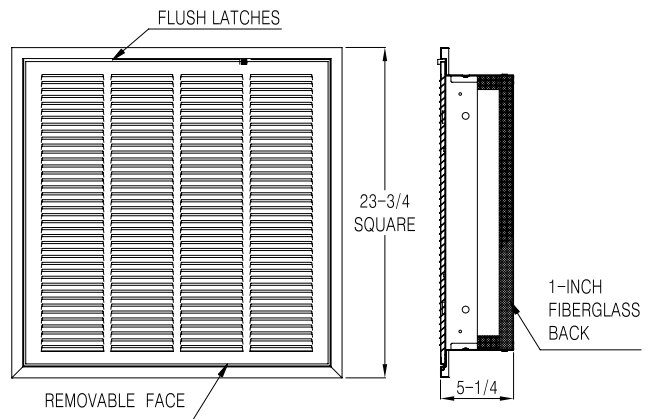
T-bar Lanced Return Grilles

T-Bar Deep Filter Frame with R6 Insulation

402405R6



- Steel construction
- Use for T-Bar ceiling
- 1/2" or 1/3" spaced fins can accept
- Lanced faceplate
- With R6 insulation
- Accommodates 1" and 2" deep filters
- Fiberglass backpan with 6"-16" targets
- Eliminates need for shop fabricated transitions for ductwork
- Overall size 23-3/4" x 23-3/4" (24" x 24" openings)
- White durable finish



402405R6 Available Sizes (In.)

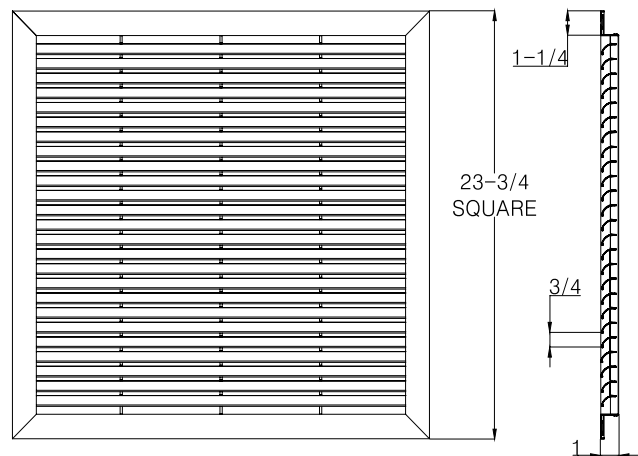
Overall Size 23-3/4" x 23-3/4"

T-Bar Aluminum Return Grille

401405T



- Extruded aluminum construction
- Fixed horizontal curved blades
- Grille mounts flush with T-bar ceilings
- Overall size 23-3/4" x 23-3/4" (24" x 24" openings)
- White durable finish



401405T Available Sizes (In.)

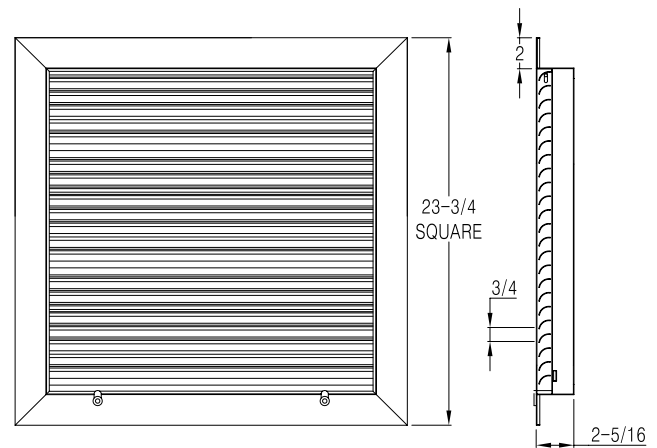
Overall Size 23-3/4" x 23-3/4"

T-BAR

T-bar Lanced Return Grilles

T-Bar Aluminum Return Filter Grille

401513T



- Extruded aluminum construction
- Fixed horizontal curved blades
- Grille mounts flush with T-bar ceiling
- Use nominal 1" thick filters (not included)
- Overall size 23-3/4" x 23-3/4" (24" x 24" openings)
- White durable finish

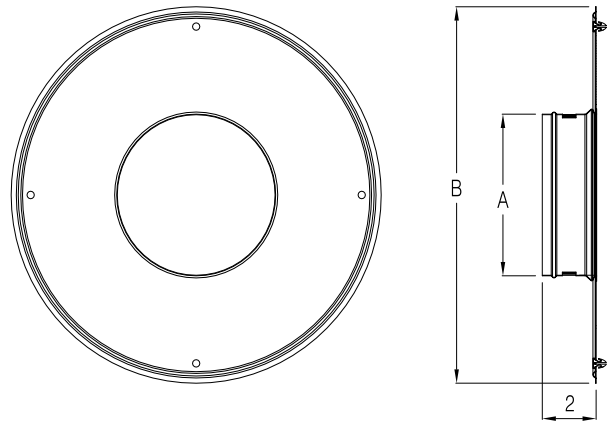
401513T Available Sizes (In.)

Overall Size 23-3/4" x 23-3/4"

Collar Ring
403302



- Galvanized steel construction
- Snap-in design for easy installation
- 2" high collar with bead for flex connections
- For use with model #403301 butterfly damper
- Available size: 6", 8", 10", 12", 14"

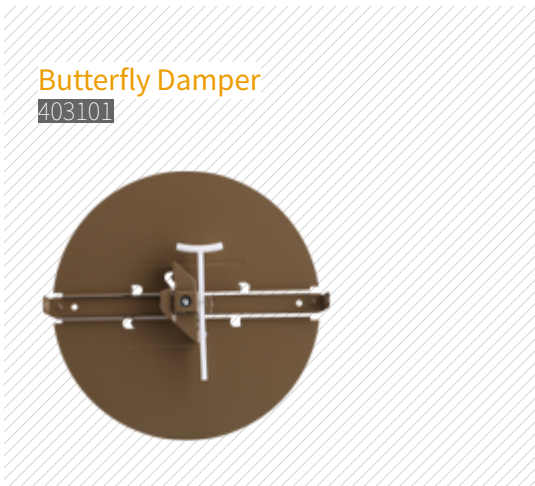


403302 Available Sizes (In.)

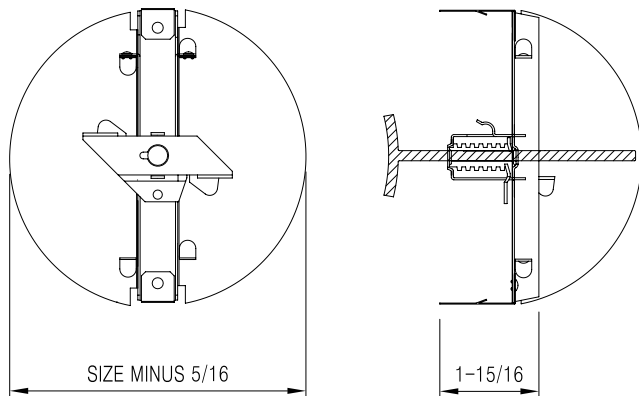
6" 8" 10" 12" 14"

Sizes	A	B
6	5-15/16	14"
8	7-7/8	14"
10	9-7/8	14"
12	11-13/16	14"
14	13-7/8	16"

Butterfly Damper
403101



- steel construction
- Adjustable butterfly damper with knob controls
- For use with model #403302 collar (6"-12")
- Available size: 6"-14"
- Brown durable finish



403101 Available Sizes (In.)

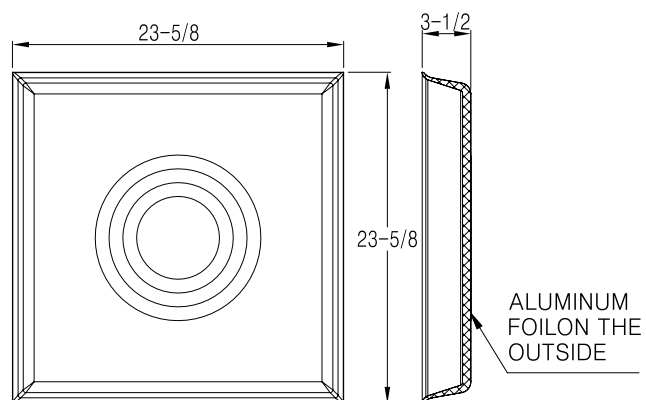
Collar Sizes 6" 8" 10" 12" 14"

T-BAR

Accessories

R6 Molded Fiberglass Back

R6



- ◉ Aluminum foil vapor barrier protects the insulation from
- ◉ Deep plum cavity for improved performance
- ◉ Prescored back for 6" to 14" diameter neck

MEMO

DATE:

MEMBER:

PLACE:





TECHNICAL TERMS

Grille

A louvered covering for opening through which air passes.

Register

A grille that is equipped with a damper or control valve, and that directs air in a nonspreading jet.

Diffuser

An outlet discharging supply air in a spreading pattern.

Return

Any opening through which air is removed from a conditioned space.

Core Area

The total plane area of that portion of a grille, face, or register bounded by a line tangent to the outer opening through which air can pass. The core area is less than the register size. Example, a 14-in. x 8-in. register may have a core that is 1 in. less than the listed size; so, the core area is 13 in. x 7 in. - 91 sq. in.

Free Area

The total minimum area of the openings in the air outlet or inlet through which air can pass.

Effective Area, A_k (Sq. Ft)

The calculated area of an outlet based on the average measured velocity between the fins.

Outlet

Any opening through which air is delivered to condition a space.

Outlet Velocity, FPM

The average velocity of the supply air, measured as it passes through the plane of the opening in the supply outlet.

Jet Velocity, Fpm (Face Velocity)

The average measured velocity of air passing between the fins.

Terminal Velocity, FPM

When the velocity of total air drops to 50 or 75 FPM, depending on the particular application, it reaches terminal velocity. Terminal velocity is not sharply defined for all applications.

Spread, Ft.

The maximum width of the total air stream at the point of terminal velocity.

Throw (Blow), Ft.

The horizontal distance an air stream travels after leaving a horizontal sidewall outlet before maximum velocity is reduced to terminal velocity. For a perimeter outlet, throw is the vertical distance the air stream travels before maximum velocity is reduced to terminal velocity.

Radius of Diffusion, Ft.

The horizontal distance (throw) from a ceiling diffuser to the point of terminal velocity.

Drop

The vertical distance between the base of the outlet and bottom of the air stream at the end of the horizontal throw.

Static Pressure, Ps

The outward force of air within a duct measured in inches of water.

Total Pressure, Pt

The sum of the velocity and static pressures measured in inches of water.

Pressure Loss , WG

Indicates how much total pressure is required to move air through a register.

Velocity Pressure, Pv

The forward-moving force of air within a duct measured in inches of water.

Primary Air

The mixture of supply air from the outlet and room air within the 150 FPM envelope.

Total Air

The mixture of projected air and room air set in motion by the supply air.

Vane Ratio

The ratio showing depth of vane to minimum width between two adjacent vanes.

Stratified Zone

A region in which room air velocity is less than 15 FPM.

NC Noise Criteria

A single number noise rating system that indicates what Broad Band, continuous sounds are reasonably acceptable.

DATA SUPPORT

Engineering and Performance Data

302401 Plastic SideWall/Ceiling Register

Face Velocit	m/s	1.52	2.03	2.54	3.05	3.56	4.06	4.57	5.08
	FPM	300	400	500	600	700	800	900	1000
8*4 Ak.092	cfm	28	37	46	55	64	74	83	92
	Ps	0.016	0.024	0.028	0.036	0.040	0.048	0.052	0.064
	Throw	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5
6*6 Ak.107	cfm	32	43	54	64	7.5	8.5	9.5	10.5
	Ps	0.012	0.018	0.024	0.030	0.036	0.040	0.048	0.056
	Throw	3.5	4.5	5.5	6.5	7.5	8.5	9.5	10.5
12*6 Ak.238	cfm	71	95	119	143	167	190	214	238
	Ps	0.012	0.018	0.024	0.030	0.036	0.040	0.048	0.056
	Throw	5.0	7.0	9.0	11.0	13.0	15.0	17.0	18.5
10*8 Ak.282	cfm	85	113	141	169	197	226	254	282
	Ps	0.012	0.018	0.024	0.030	0.036	0.040	0.048	0.056
	Throw	NA	NA	NA	NA	NA	NA	NA	NA
14*6 Ak.300	cfm	90	120	150	180	210	240	270	300
	Ps	0.012	0.018	0.024	0.030	0.036	0.040	0.048	0.056
	Throw	NA	NA	NA	NA	NA	NA	NA	NA
14*8 Ak.402	cfm	121	161	201	241	281	322	362	402
	Ps	0.010	0.016	0.022	0.028	0.032	0.040	0.048	0.056
	Throw	NA	NA	NA	NA	NA	NA	NA	NA

302402 Plastic SideWall/Ceiling Register

Face Velocit	m/s	1.52	2.03	2.54	3.05	3.56	4.06	4.57	5.08
	FPM	300	400	500	600	700	800	900	1000
8*4 Ak.112	cfm	34	45	56	67	78	90	101	112
	Ps	0.016	0.024	0.028	0.036	0.040	0.048	0.072	0.084
	Throw L	2.0	2.5	3.0	3.5	4.5	5.0	6.0	6.5
	Throw S	2.0	2.5	3.0	3.5	4.5	5.0	6.0	6.5
10*6 Ak.203	cfm	61	81	102	122	142	162	183	203
	Ps	0.012	0.018	0.024	0.030	0.036	0.040	0.052	0.064
	Throw L	1.5	2.0	2.0	2.5	3.0	3.5	3.5	4.5
	Throw S	3.0	3.0	4.0	4.5	5.0	6.5	7.0	7.5
12*6 Ak.249	cfm	75	100	125	149	174	199	224	249
	Ps	0.012	0.018	0.024	0.030	0.036	0.044	0.052	0.064
	Throw L	3.5	4.0	4.5	5.5	6.0	7.5	8.0	9.0
	Throw S	3.5	4.0	4.5	5.5	6.0	7.5	8.0	9.0
10*8 Ak.255	cfm	77	102	128	153	179	204	230	255
	Ps	0.010	0.016	0.020	0.028	0.032	0.040	0.048	0.056
	Throw L	2.0	2.5	3.0	3.5	3.5	4.5	5.0	5.5
	Throw S	3.0	4.0	4.5	5.0	6.5	7.0	8.0	9.5
14*8 Ak.402	cfm	121	161	201	241	281	322	362	402
	Ps	0.010	0.016	0.022	0.028	0.032	0.040	0.048	0.056
	Throw L	NA	NA	NA	NA	NA	NA	NA	NA
	Throw S	NA	NA	NA	NA	NA	NA	NA	NA

302403 Plastic SideWall/Ceiling Register

Face Velocit	m/s	1.52	2.03	2.54	3.05	3.56	4.06	4.57	5.08
	FPM	300	400	500	600	700	800	900	1000
6*6 Ak.127	cfm	38	51	64	76	89	102	114	127
	Ps	0.016	0.020	0.028	0.036	0.044	0.052	0.060	0.072
	Throw	NA	NA	NA	NA	NA	NA	NA	NA
8*8 Ak.235	cfm	71	94	118	141	165	188	212	235
	Ps	0.012	0.018	0.024	0.030	0.036	0.040	0.048	0.056
	Throw	NA	NA	NA	NA	NA	NA	NA	v
10*10 Ak.235	cfm	106	141	176	211	246	282	317	352
	Ps	0.012	0.016	0.024	0.036	0.044	0.050	0.062	0.070
	Throw	NA	NA	NA	NA	NA	NA	NA	NA
12*12 Ak.352	cfm	158	210	263	315	368	420	473	525
	Ps	0.010	0.016	0.022	0.028	0.036	0.044	0.056	0.066
	Throw	NA	NA	NA	NA	NA	NA	NA	NA

301202 Floor Return Air Grille

Face Velocit	m/s	2.03	2.54	3.05	3.56	4.06	4.57	5.08
	FPM	400	500	600	700	800	900	1000
4*8 Ak.203	cfm	81	102	122	142	162	183	203
	Pt	0.013	1.016	0.023	0.032	0.042	0.052	0.070
6*6 Ak.231	cfm	92	116	139	162	185	208	231
	Pt	0.130	0.016	0.023	0.032	0.042	0.051	0.070
4*10 Ak.265	cfm	106	133	159	186	212	239	265
	Pt	0.012	0.015	0.023	0.031	0.041	0.051	0.069
4*12/6*8 Ak.301	cfm	120	151	181	211	241	271	301
	Pt	0.012	0.015	0.022	0.031	0.040	0.051	0.069
4*14 Ak.203	cfm	135	169	202	236	270	303	337
	Pt	0.011	0.014	0.021	0.031	0.039	0.050	0.067
6*10 Ak.370	cfm	148	185	222	259	296	333	370
	Pt	0.011	0.014	0.020	0.031	0.039	0.049	0.066
8*8 Ak.403	cfm	161	202	242	282	322	363	403
	Pt	0.010	0.014	0.020	0.030	0.039	0.048	0.065
6*12/4*18 Ak.455	cfm	161	202	242	282	322	363	403
	Pt	0.010	0.014	0.020	0.030	0.039	0.048	0.064
8*10 Ak.505	cfm	202	253	303	354	404	455	505
	Pt	0.010	0.014	0.019	0.029	0.037	0.047	0.063
6*14 Ak.540	cfm	216	270	324	378	432	486	540
	Pt	0.010	0.014	0.019	0.029	0.037	0.047	0.062
4*24/6*16 /8*12 Ak.455	cfm	236	296	355	414	473	532	591
	Pt	0.010	0.014	0.018	0.028	0.037	0.047	0.057
10*10 Ak.658	cfm	263	329	395	461	526	592	658
	Pt	0.009	0.014	0.018	0.028	0.037	0.046	0.060
6*18/9*12 Ak.693	cfm	277	347	416	485	554	624	693
	Pt	0.009	0.014	0.017	0.027	0.036	0.045	0.059

Engineering and Performance Data

301202 Floor Return Air Grille (continued)

Face	m/s	2.03	2.54	3.05	3.56	4.06	4.57	5.08
Velocit	FPM	400	500	600	700	800	900	1000
8*14	cfm	284	355	426	497	568	639	710
Ak.710	Pt	0.008	0.014	0.017	0.027	0.036	0.044	0.058
4*30/6*20 /10*12	cfm	296	370	444	518	592	666	740
Ak.740	Pt	0.008	0.014	0.017	0.027	0.036	0.043	0.054
12*14	cfm	392	2490	588	686	784	882	980
Ak.980	Pt	0.007	0.013	0.017	0.023	0.032	0.041	0.052
6*30/10*18	cfm	420	525	630	735	840	945	1050
Ak 1.05	Pt	0.007	0.013	0.017	0.023	0.032	0.041	0.048
8*24/12*16	cfm	452	565	678	791	904	1017	1130
Ak 1.13	Pt	0.007	0.013	0.017	0.023	0.031	0.040	0.048
14*14	cfm	472	590	708	826	944	1062	1180
Ak 1.18	Pt	0.007	0.013	0.017	0.023	0.031	0.040	0.048
10*20	cfm	488	610	732	854	976	1098	1220
Ak 1.22	Pt	0.007	0.012	0.017	0.023	0.030	0.038	0.047
12*18/36*6	cfm	496	620	744	868	992	1116	1240
Ak 1.24	Pt	0.007	0.012	0.017	0.023	0.030	0.037	0.047
14*16	cfm	512	640	768	896	1024	1152	1280
Ak 1.28	Pt	0.007	0.012	0.017	0.023	0.029	0.036	0.046
8*30/10*24 /12*20	cfm	548	685	822	959	1096	1233	1370
Ak 1.37	Pt	0.007	0.012	0.017	0.023	0.029	0.036	0.046
16*16	cfm	588	735	882	1029	1176	1323	1470
Ak 1.47	Pt	0.007	0.012	0.016	0.023	0.290	0.036	0.045
14*20	cfm	648	810	972	1134	1296	1458	1620
Ak 1.62	Pt	0.007	0.011	0.016	0.023	0.028	0.035	0.045
12*24	cfm	648	810	972	1134	1296	1458	1620
Ak 1.68	Pt	0.007	0.011	0.016	0.023	0.028	0.035	0.044
10*30	cfm	684	855	1026	1197	1368	1539	1710
Ak 1.71	Pt	0.007	0.010	0.015	0.022	0.028	0.035	0.044
16*20	cfm	740	925	1110	1295	1480	1665	1850
Ak 1.85	Pt	0.007	0.010	0.015	0.022	0.027	0.034	0.041
18*18	cfm	748	935	1122	1309	1496	1683	1870
Ak 1.85	Pt	0.007	0.010	0.015	0.022	0.027	0.034	0.041
14*24	cfm	784	980	1176	1372	1568	1764	1960
Ak 1.96	Pt	0.007	0.010	0.015	0.021	0.026	0.033	0.040
12*30	cfm	848	1060	1272	1484	1686	1908	2120
Ak 2.12	Pt	0.007	0.010	0.015	0.021	0.026	0.033	0.040
16*24	cfm	892	1115	1338	1561	1784	2007	2230
Ak 2.23	Pt	0.007	0.010	0.015	0.021	0.026	0.033	0.040
20*20	cfm	944	1180	1416	1652	1888	2124	2360
Ak 2.36	Pt	0.007	0.010	0.014	0.020	0.025	0.032	0.039
14*30	cfm	988	1235	1482	1729	1976	2223	2470
Ak 2.47	Pt	0.007	0.010	0.014	0.020	0.025	0.031	0.039

301202 Floor Return Air Grille (continued)

Face	m/s	2.03	2.54	3.05	3.56	4.06	4.57	5.08
Velocit	FPM	400	500	600	700	800	900	1000
18*24	cfm	1008	1260	1512	1764	2016	2268	2520
Ak 2.52	Pt	0.007	0.010	0.014	0.020	0.025	0.031	0.038
16*30/20*24	cfm	1060	1325	1590	1855	2120	2385	2650
Ak 2.65	Pt	0.006	0.010	0.014	0.019	0.024	0.030	0.038
20*25	cfm	1120	1400	1680	1960	2240	2520	2800
Ak 2.80	Pt	0.006	0.009	0.013	0.018	0.023	0.029	0.036
20*26	cfm	1216	1520	1824	2128	2432	2736	3040
Ak 3.04	Pt	0.006	0.009	0.013	0.018	0.023	0.029	0.036
18*30	cfm	1248	1560	1872	2184	2496	2880	3120
Ak 3.12	Pt	0.006	0.009	0.013	0.018	0.023	0.029	0.036
24*24	cfm	1316	1645	1974	2303	2632	2961	3290
Ak 3.29	Pt	0.006	0.009	0.013	0.018	0.023	0.029	0.036
20*30	cfm	1420	1775	2130	2485	2840	3195	3550
Ak 1.18	Pt	0.006	0.009	0.012	0.017	0.023	0.028	0.035
24*30	cfm	1780	2225	2670	3115	3560	4005	4450
Ak 3.55	Pt	0.006	0.009	0.012	0.017	0.022	0.028	0.035
24*36	cfm	1860	2325	2790	3255	3720	4185	4650
Ak 4.65	Pt	0.006	0.009	0.012	0.017	0.022	0.028	0.034

301102 Floor Register

Face	m/s	1.52	2.03	2.54	3.05	3.56	4.06	4.57	5.08
Velocit	FPM	300	400	500	600	700	800	900	1000
Pressure Loss		0.008	0.012	0.016	0.020	0.032	0.044	0.052	0.064
4*8	cfm	48	64	80	96	112	128	144	160
Ak.16	Throw	6.0	9.0	11.0	13.0	15.0	19.0	20.0	23.0
6*6	cfm	54	72	90	108	126	144	162	180
Ak.18	Throw	7.0	10.0	12.0	14.0	16.0	20.0	22.0	25.0
4*10	cfm	75	100	125	149	174	199	224	249
Ak.20	Throw	0.012	0.018	0.024	0.030	0.036	0.044	0.052	0.064
4*12/6*8	cfm	69	92	115	138	161	184	207	230
Ak.23	Throw	9.0	12.0	15.0	18.0	21.0	25.0	28.0	31.0
4*14	cfm	84	112	140	168	196	224	252	280
Ak.28	Throw	9.0	12.0	15.0	19.0	21.0	25.0	28.0	31.0
6*10	cfm	93	124	155	186	217	248	279	310
Ak.31	Throw	10.0	14.0	17.0	21.0	23.0	27.0	30.0	33.0
8*8	cfm	99	132	165	198	231	264	297	330
Ak.33	Throw	10.0	14.0	17.0	21.0	23.0	27.0	30.0	34.0
6*12	cfm	117	156	195	234	273	312	351	390
Ak.39	Throw	12.0	15.0	19.0	23.0	26.0	30.0	33.0	38.0
8*10	cfm	132	176	220	264	308	352	396	440
Ak.44	Throw	12.0	15.0	18.0	24.0	28.0	32.0	37.0	42.0
6*14	cfm	138	184	230	276	322	368	414	460
Ak.46	Throw	13.0	16.0	20.0	24.0	28.0	32.0	37.0	42.0

DATA SUPPORT

Engineering and Performance Data

301102 Floor Diffuser(continued)

Face	m/s	1.52	2.03	2.54	3.05	3.56	4.06	4.57	5.08
Velocit	FPM	300	400	500	600	700	800	900	1000
Pressure Loss		0.008	0.012	0.016	0.020	0.032	0.044	0.052	0.064
8*12	cfm	162	216	270	324	378	432	486	540
Ak.54	Throw	13.0	17.0	21.0	25.0	30.0	35.0	38.0	44.0
10*10	cfm	165	220	275	330	385	440	495	550
Ak.55	Throw	13.0	17.0	21.0	25.0	30.0	35.0	39.0	45.0
9*12	cfm	177	236	295	354	413	472	531	590
Ak.59	Throw	14.0	19.0	24.0	29.0	24.0	29.0	44.0	49.0
8*14	cfm	183	244	305	366	427	488	549	610
Ak.61	Throw	14.0	20.0	24.0	30.0	35.0	40.0	45.0	50.0
10*12	cfm	201	268	335	402	469	536	603	670
Ak.67	Throw	0.012	0.018	0.024	0.030	0.036	0.044	0.052	0.064
10*14	cfm	240	320	400	480	560	640	720	800
Ak.80	Throw	15.0	21.0	28.0	34.0	40.0	45.0	51.0	56.0
12*12	cfm	243	324	405	486	567	648	729	810
Ak.81	Throw	14.0	21.0	28.0	34.0	40.0	46.0	51.0	56.0
12*14	cfm	285	380	475	570	665	760	855	950
Ak.95	Throw	18.0	24.0	30.0	37.0	43.0	50.0	55.0	62.0

301101 Floor Diffuser

Face	m/s	1.52	2.03	2.54	3.05	3.56	4.06	4.57	5.08
Velocit	FPM	300	400	500	600	700	800	900	1000
Pressure Loss		0.008	0.012	0.016	0.024	0.032	0.040	0.048	0.060
2*10 Ak.090	cfm	27	36	45	54	63	72	81	90
	Spread	3.0	4.0	6.0	7.0	8.0	10.0	11.0	12.0
	Throw	2.0	3.0	4.0	5.0	5.0	6.0	7.0	8.0
2*12 Ak.112	cfm	34	45	56	67	78	90	101	112
	Spread	3.0	5.0	6.0	7.0	9.0	10.0	12.0	13.0
	Throw	2.0	4.0	4.0	5.0	6.0	7.0	8.0	8.0
2*14 Ak.133	cfm	40	53	67	80	93	106	120	133
	Spread	4.0	6.0	7.0	8.0	10.0	11.0	12.0	13.0
	Throw	3.0	4.0	5.0	5.0	6.0	7.0	8.0	9.0
4*10 Ak.174	cfm	52	70	87	104	122	139	157	174
	Spread	5.0	7.0	8.0	10.0	11.0	13.0	15.0	17.0
	Throw	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0
4*12 Ak.212	cfm	64	85	106	127	147	170	191	212
	Spread	5.0	7.0	9.0	11.0	12.0	14.0	16.0	18.0
	Throw	3.0	4.0	5.0	6.0	8.0	9.0	10.0	11.0
4*14 Ak.112	cfm	76	101	127	152	177	202	228	253
	Spread	6.0	8.0	10.0	12.0	13.0	15.0	18.0	19.0
	Throw	4.0	5.0	6.0	7.0	8.0	9.0	11.0	12.0
6*10 Ak.272	cfm	82	109	136	163	190	218	245	272
	Spread	7.0	9.0	10.0	12.0	14.0	16.0	18.0	21.0
	Throw	4.0	5.0	6.0	7.0	9.0	10.0	11.0	13.0

301101 Floor Diffuser(continued)

Face	m/s	1.52	2.03	2.54	3.05	3.56	4.06	4.57	5.08
Velocit	FPM	300	400	500	600	700	800	900	1000
Pressure Loss		0.008	0.012	0.016	0.024	0.032	0.040	0.048	0.060
6*12 Ak.338	cfm	101	135	169	203	237	270	304	338
	Spread	7.0	9.0	11.0	14.0	15.0	18.0	20.0	22.0
	Throw	5.0	6.0	7.0	9.0	10.0	11.0	12.0	14.0
6*14 Ak.391	cfm	117	156	196	235	274	313	352	391
	Spread	8.0	10.0	13.0	14.0	17.0	20.0	22.0	25.0
	Throw	5.0	6.0	7.0	9.0	10.0	12.0	13.0	15.0
14*12 Ak.762	cfm	229	305	381	457	533	610	686	762
	Spread	15.0	19.0	25.0	27.0	32.0	28.0	42.0	48.0
	Throw	9.0	11.0	13.0	17.0	19.0	23.0	25.0	28.0

301103/301104/301201 Floor Diffuser

Face	m/s	1.52	2.03	2.54	3.05	3.56	4.06	4.57	5.08
Velocit	FPM	300	400	500	600	700	800	900	1000
Pressure Loss		0.004	0.008	0.016	0.024	0.028	0.040	0.052	0.060
2*10 Ak.094	cfm	28	38	47	56	66	75	85	94
	Spread	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0
	Throw	4.0	5.0	6.0	7.0	8.0	9.0	10.0	11.0
2*12 Ak.110	cfm	33	44	55	66	77	88	99	110
	Spread	4.0	6.0	6.0	7.0	8.0	9.0	10.0	11.0
	Throw	5.0	6.0	7.0	8.0	9.0	10.0	11.0	12.0
2*14 Ak.125	cfm	38	50	63	75	88	100	113	125
	Spread	4.0	6.0	7.0	7.0	8.0	10.0	11.0	12.0
	Throw	5.0	7.0	8.0	9.0	10.0	11.0	12.0	13.0
3*10 Ak.150	cfm	41	55	69	82	96	110	123	137
	Spread	4.0	6.0	7.0	8.0	9.0	10.0	11.0	12.0
	Throw	5.0	7.0	8.0	9.0	10.0	11.0	12.0	13.0
4*8 Ak.094	cfm	45	60	75	90	105	120	135	150
	Spread	4.0	5.0	7.0	8.0	9.0	10.0	11.0	13.0
	Throw	6.0	7.0	8.0	10.0	11.0	12.0	13.0	14.0
4*10 Ak.170	cfm	51	68	85	102	119	136	153	170
	Spread	5.0	6.0	7.0	8.0	10.0	11.0	13.0	15.0
	Throw	6.0	7.0	9.0	11.0	12.0	13.0	15.0	17.0
4*12/6*8 Ak.200	cfm	60	80	100	120	140	160	180	200
	Spread	6.0	7.0	9.0	11.0	12.0	14.0	15.0	17.0
	Throw	5.0	6.0	8.0	9.0	10.0	11.0	13.0	14.0
4*14 Ak.230	cfm	69	92	115	138	161	184	207	230
	Spread	7.0	8.0	10.0	11.0	13.0	16.0	17.0	19.0
	Throw	6.0	7.0	8.0	10.0	11.0	13.0	14.0	15.0
6*10 Ak.247	cfm	74	99	124	148	173	198	222	247
	Spread	6.0	8.0	9.0	12.0	13.0	15.0	17.0	19.0
	Throw	5.0	7.0	8.0	10.0	11.0	13.0	14.0	15.0

Engineering and Performance Data

301103/301104/301201 Floor Diffuser (continued)

Face	m/s	1.52	2.03	2.54	3.05	3.56	4.06	4.57	5.08
Velocit	FPM	300	400	500	600	700	800	900	1000
Pressure Loss		0.004	0.008	0.016	0.024	0.028	0.040	0.052	0.060
6*12 Ak.285	cfm	86	114	143	171	200	228	257	285
	Spread	7.0	9.0	10.0	13.0	15.0	17.0	19.0	22.0
	Throw	6.0	8.0	9.0	11.0	12.0	15.0	16.0	18.0
6*14 Ak.335	cfm	101	134	168	201	235	268	302	335
	Spread	8.0	9.0	11.0	13.0	16.0	18.0	20.0	22.0
	Throw	6.0	8.0	10.0	12.0	13.0	15.0	17.0	18.0
8*14 Ak.406	cfm	2	3	3	4	4	5	5	6
	Spread	9.0	10.0	11.0	14.0	17.0	18.0	21.0	23.0
	Throw	7.0	8.0	10.0	12.0	13.0	15.0	17.0	19.0

302101 1-Way Curved — Blade Register

Face	m/s	1.52	2.03	2.54	3.05	3.56	4.06	4.57	5.08
Velocit	FPM	300	400	500	600	700	800	900	1000
6*6 Ak.11	cfm	33	44	55	66	77	88	99	110
	Ps	0.007	0.012	0.020	0.030	0.040	0.052	0.066	0.081
	Throw	6.0	8.0	10.0	11.0	13.0	15.0	17.0	19.0
8*4 Ak.117	cfm	35	47	59	70	82	94	105	117
	Ps	0.008	0.012	0.020	0.032	0.044	0.052	0.068	0.080
	Throw	7.0	9.0	11.0	14.0	15.0	17.0	19.0	22.0
8*6 Ak.149	cfm	45	60	75	89	104	119	134	149
	Ps	0.008	0.013	0.021	0.030	0.041	0.054	0.068	0.082
	Throw	8.0	10.0	12.0	15.0	17.0	20.0	22.0	25.0
8*8 Ak.18	cfm	54	72	90	108	126	144	162	180
	Ps	0.008	0.014	0.022	0.031	0.043	0.056	0.071	0.087
	Throw	8.0	11.0	14.0	16.0	19.0	21.0	24.0	27.0
10*4 Ak.14	cfm	42	56	70	84	98	112	126	140
	Ps	0.008	0.012	0.021	0.032	0.044	0.052	0.069	0.082
	Throw	7.0	9.0	12.0	14.0	15.0	17.0	20.0	23.0
10*6 Ak.16	cfm	48	64	80	96	112	128	144	160
	Ps	0.008	0.012	0.020	0.032	0.044	0.056	0.068	0.084
	Throw	8.0	10.0	12.0	15.0	17.0	20.0	22.0	25.0
10*8 Ak.21	cfm	63	84	105	126	147	168	189	210
	Ps	0.008	0.012	0.020	0.033	0.046	0.057	0.069	0.086
	Throw	8.0	10.0	13.0	16.0	19.0	22.0	24.0	27.0
10*10 Ak.25	cfm	75	100	125	150	175	200	225	250
	Ps	0.008	0.014	0.021	0.030	0.042	0.054	0.069	0.085
	Throw	9.0	12.0	14.0	17.0	20.0	23.0	26.0	29.0
12*6 Ak.19	cfm	57	76	95	114	133	152	171	190
	Ps	0.008	0.016	0.024	0.032	0.048	0.060	0.076	0.100
	Throw	8.0	10.0	12.0	15.0	17.0	19.0	21.0	24.0

302101 1-Way Curved — Blade Register(continued)

Face	m/s	1.52	2.03	2.54	3.05	3.56	4.06	4.57	5.08
Velocit	FPM	300	400	500	600	700	800	900	1000
12*8 Ak.22	cfm	66	88	110	132	154	176	198	220
	Ps	0.008	0.016	0.024	0.032	0.044	0.056	0.072	0.092
	Throw	9.0	12.0	15.0	17.0	19.0	22.0	24.0	27.0
12*12 Ak.31	cfm	93	124	1555	186	217	248	279	310
	Ps	0.012	0.016	0.024	0.040	0.072	0.085	0.096	0.102
	Throw	9.0	12.0	16.0	19.0	23.0	26.0	30.0	34.0
14*4 Ak.16	cfm	48	64	80	96	112	128	144	160
	Ps	0.011	0.015	0.023	0.031	0.042	0.062	0.069	0.086
	Throw	7.0	9.0	11.0	14.0	16.0	18.0	20.0	23.0
14*6 Ak.22	cfm	66	88	110	132	154	176	198	220
	Ps	0.012	0.016	0.024	0.032	0.044	0.064	0.072	0.088
	Throw	7.0	10.0	13.0	16.0	18.0	20.0	22.0	26.0
14*8 Ak.25	cfm	75	100	125	150	175	200	225	250
	Ps	0.012	0.016	0.024	0.040	0.048	0.068	0.080	0.092
	Throw	9.0	12.0	16.0	19.0	23.0	26.0	30.0	34.0
16*6 Ak.24	cfm	72	96	120	144	168	192	216	240
	Ps	0.008	0.014	0.021	0.030	0.042	0.054	0.069	0.085
	Throw	8.0	11.0	14.0	16.0	19.0	22.0	24.0	27.0

302102 2-Way Curved — Blade Register

Face	m/s	1.52	2.03	2.54	3.05	3.56	4.06	4.57	5.08
Velocit	FPM	300	400	500	600	700	800	900	1000
8*4 Ak.11	cfm	33	44	55	66	77	88	99	110
	Ps	0.012	0.024	0.036	0.048	0.060	0.088	0.108	0.132
	Throw	3.0	5.0	6.0	8.0	9.0	10.0	12.0	13.0
10*6 Ak.18	cfm	54	72	90	108	126	144	162	180
	Ps	0.012	0.024	0.032	0.048	0.064	0.084	0.104	0.128
	Throw	4.0	6.0	7.0	9.0	10.0	12.0	13.0	15.0
10*8 Ak.23	cfm	69	92	115	138	161	184	207	230
	Ps	0.012	0.024	0.032	0.046	0.064	0.080	0.102	0.126
	Throw	7.0	8.0	10.0	12.0	13.0	15.0	17.0	19.0
10*10 Ak.288	cfm	86	115	144	173	202	230	259	288
	Ps	0.012	0.024	0.032	0.044	0.064	0.080	0.100	0.124
	Throw	7.0	8.0	10.0	12.0	13.0	15.0	17.0	19.0
12*4 Ak.14	cfm	42	56	70	84	98	112	126	140
	Ps	0.012	0.021	0.033	0.047	0.064	0.083	0.106	0.130
	Throw	4.0	5.0	6.0	7.0	8.0	9.0	11.0	12.0
12*6 Ak.21	cfm	63	84	105	126	147	168	189	210
	Ps	0.012	0.020	0.032	0.048	0.064	0.080	0.100	0.124
	Throw	6.0	7.0	9.0	11.0	13.0	14.0	16.0	17.0
12*8 Ak.27	cfm	81	108	135	162	189	216	243	270
	Ps	0.012	0.024	0.032	0.044	0.064	0.080	0.100	0.124
	Throw	07.0	8.0	10.0	12.0	13.0	15.0	17.0	19.0

DATA SUPPORT

Engineering and Performance Data

302102 2-Way Curved — Blade Register(continued)

Face	m/s	1.52	2.03	2.54	3.05	3.56	4.06	4.57	5.08
Velocit	FPM	300	400	500	600	700	800	900	1000
12*12 Ak.32	cfm	96	128	160	192	224	256	288	320
	Ps	0.011	0.022	0.030	0.044	0.060	0.078	0.100	0.122
	Throw	8.0	8.0	10.0	12.0	13.0	15.0	17.0	19.0
14*6 Ak.24	cfm	72	96	120	144	168	192	216	240
	Ps	0.012	0.020	0.032	0.044	0.064	0.080	0.104	0.124
	Throw	7.0	8.0	10.0	12.0	13.0	15.0	16.0	18.0

302103 3-Way Curved — Blade Register

Face	m/s	1.52	2.03	2.54	3.05	3.56	4.06	4.57	5.08
Velocit	FPM	300	400	500	600	700	800	900	1000
6*6 Ak.12	cfm	36	48	60	72	84	96	108	120
	Ps	0.016	0.032	0.044	0.060	0.080	0.104	0.128	0.164
	Throw L	6.0	8.0	9.0	10.0	12.0	15.0	17.0	20.0
	Throw S	4.0	5.0	6.0	7.0	8.0	9.0	11.0	12.0
8*4 Ak.115	cfm	35	46	58	69	51	92	104	115
	Ps	0.012	0.024	0.040	0.056	0.076	0.104	0.124	0.164
	Throw L	5.0	7.0	9.0	11.0	12.0	14.0	16.0	17.0
	Throw S	4.0	5.0	6.0	7.0	8.0	9.0	10.0	11.0
8*6 Ak.14	cfm	42	56	70	84	98	112	126	140
	Ps	0.020	0.032	0.048	0.064	0.084	0.108	0.136	0.168
	Throw L	6.0	8.0	10.0	12.0	14.0	17.0	18.0	21.0
	Throw S	3.0	4.0	6.0	7.0	8.0	9.0	11.0	12.0
8*8 Ak.19	cfm	57	76	95	114	133	152	171	190
	Ps	0.012	0.024	0.032	0.052	0.068	0.088	0.112	0.136
	Throw L	7.0	9.0	11.0	13.0	16.0	18.0	20.0	22.0
	Throw S	4.0	6.0	7.0	9.0	10.0	11.0	12.0	13.0
10*4 Ak.15	cfm	45	60	75	90	105	120	135	150
	Ps	0.020	0.032	0.048	0.064	0.084	0.108	0.136	0.168
	Throw L	6.0	8.0	10.0	12.0	14.0	17.0	18.0	21.0
	Throw S	4.0	5.0	6.0	7.0	8.0	9.0	11.0	12.0
10*6 Ak.117	cfm	53	71	89	106	124	142	159	177
	Ps	0.012	0.024	0.040	0.060	0.080	0.104	0.136	0.168
	Throw L	8.0	9.0	11.0	13.0	15.0	18.0	19.0	22.0
	Throw S	4.0	5.0	7.0	8.0	9.0	10.0	11.0	13.0
10*8 Ak.22	cfm	66	88	110	132	154	176	198	220
	Ps	0.012	0.028	0.040	0.056	0.068	0.092	0.112	0.144
	Throw L	7.0	9.0	11.0	14.0	17.0	20.0	23.0	26.0
	Throw S	4.0	6.0	8.0	9.0	11.0	13.0	15.0	17.0
10*10 Ak.32	cfm	96	128	160	192	224	256	288	320
	Ps	0.016	0.028	0.044	0.060	0.088	0.120	0.140	0.176
	Throw L	8.0	11.0	14.0	17.0	20.0	23.0	26.0	28.0
	Throw S	5.0	7.0	8.0	10.0	12.0	14.0	16.0	18.0

302103 3-Way Curved — Blade Register(continued)

Face	m/s	1.52	2.03	2.54	3.05	3.56	4.06	4.57	5.08
Velocit	FPM	300	400	500	600	700	800	900	1000
12*4 Ak.15	cfm	45	60	75	90	105	120	135	150
	Ps	0.020	0.032	0.048	0.064	0.083	0.106	0.134	0.165
	Throw L	6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0
	Throw S	3.0	4.0	6.0	7.0	8.0	9.0	11.0	12.0
12*6 Ak.22	cfm	66	88	110	132	154	176	198	220
	Ps	0.012	0.024	0.036	0.044	0.068	0.084	0.108	0.132
	Throw L	8.0	10.0	12.0	14.0	17.0	19.0	21.0	23.0
	Throw S	4.0	6.0	7.0	9.0	10.0	12.0	13.0	14.0
12*8 Ak.28	cfm	84	112	140	168	196	224	252	280
	Ps	0.008	0.020	0.028	0.040	0.048	0.064	0.080	0.096
	Throw L	9.0	12.0	15.0	17.0	19.0	21.0	24.0	28.0
	Throw S	5.0	7.0	9.0	11.0	13.0	15.0	17.0	19.0
12*12 Ak.39	cfm	117	156	195	234	273	312	351	390
	Ps	0.008	0.016	0.024	0.032	0.044	0.056	0.072	0.092
	Throw L	9.0	13.0	15.0	18.0	22.0	25.0	29.0	32.0
14*4 Ak.17	Throw S	6.0	8.0	10.0	11.0	13.0	15.0	17.0	18.0
	cfm	87	116	145	174	203	232	261	290
	Ps	0.012	0.020	0.036	0.044	0.068	0.084	0.100	0.120
	Throw L	8.0	10.0	14.0	16.0	18.0	20.0	22.0	25.0
14*6 Ak.21	Throw S	5.0	6.0	8.0	9.0	10.0	12.0	14.0	15.0
	cfm	63	84	105	126	147	168	189	210
	Ps	0.008	0.016	0.028	0.036	0.052	0.068	0.088	0.104
	Throw L	8.0	10.0	12.0	15.0	17.0	19.0	21.0	23.0
14*8 Ak.30	Throw S	4.0	6.0	7.0	9.0	10.0	11.0	13.0	14.0
	cfm	90	120	150	180	210	240	270	300
	Ps	0.008	0.020	0.028	0.040	0.048	0.068	0.084	0.104
	Throw L	8.0	11.0	14.0	17.0	20.0	24.0	27.0	30.0
	Throw S	5.0	7.0	9.0	11.0	13.0	15.0	17.0	19.0

302104 4-Way Curved — Blade Register

Face	m/s	1.52	2.03	2.54	3.05	3.56	4.06	4.57	5.08
Velocit	FPM	300	400	500	600	700	800	900	1000
6*6 Ak.167	cfm	50	67	84	100	117	134	150	167
	Ps	0.036	0.068	0.108	0.156	0.204	0.284	0.344	0.440
	Throw L	4.0	5.0	6.0	7.0	8.0	8.0	9.0	10.0
	Throw S	5.0	6.0	7.0	8.0	9.0	10.0	11.0	12.0
8*8 Ak.22	cfm	66	88	110	132	154	176	198	220
	Ps	0.020	0.044	0.068	0.092	0.128	0.164	0.212	0.264
	Throw L	5.0	6.0	7.0	8.0	10.0	11.0	12.0	13.0
	Throw S	5.0	6.0	8.0	9.0	11.0	12.0	14.0	15.0
10*10 Ak.287	cfm	86	115	144	172	201	230	258	287
	Ps	0.016	0.028	0.048	0.064	0.088	0.116	0.148	0.180
	Throw L	5.0	6.0	8.0	9.0	11.0	12.0	14.0	15.0
	Throw S	6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0

Engineering and Performance Data

302104 4-Way Curved — Blade Register(continued)

Face	m/s	1.52	2.03	2.54	3.05	3.56	4.06	4.57	5.08
Velocit	FPM	300	400	500	600	700	800	900	1000
12*12 Ak.407	cfm	122	163	204	244	285	326	366	407
	Ps	0.016	0.024	0.032	0.048	0.068	0.084	0.108	0.132
	Throw L	5.0	7.0	9.0	11.0	12.0	14.0	16.0	18.0
	Throw S	6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0
14*14 Ak.483	cfm	145	193	242	290	338	386	435	483
	Ps	0.008	0.016	0.028	0.040	0.048	0.064	0.080	0.104
	Throw L	6.0	8.0	10.0	12.0	14.0	15.0	17.0	19.0
	Throw S	6.0	9.0	11.0	13.0	15.0	17.0	18.0	21.0

302105 One-Way SideWall/Ceiling Register

Face	m/s	1.52	2.03	2.54	3.05	3.56	4.06	4.57	5.08
Velocit	FPM	300	400	500	600	700	800	900	1000
Pressure Loss		0.008	0.012	0.016	0.024	0.032	0.044	0.052	0.064
8*4 Ak.103	cfm	31	41	52	62	72	82	93	103
	Throw	4.0	5.0	6.0	8.0	9.0	10.0	11.0	13.0
8*6 Ak.150	cfm	45	60	75	90	105	120	135	150
	Throw	5.0	6.0	8.0	9.0	11.0	12.0	14.0	15.0
10*6 Ak.197	cfm	59	79	99	118	138	158	177	197
	Throw	6.0	8.0	11.0	13.0	14.0	16.0	18.0	20.0
12*6 Ak.237	cfm	71	95	119	142	166	190	213	237
	Throw	7.0	9.0	13.0	14.0	16.0	17.0	20.0	21.0
14*6 Ak.305	cfm	92	122	153	183	214	244	275	305
	Throw	8.0	10.0	16.0	17.0	19.0	21.0	22.0	26.0
16*6 Ak.346	cfm	104	138	173	208	242	277	311	346
	Throw	9.0	11.0	17.0	19.0	20.0	22.0	24.0	26.0
14*8 Ak.412	cfm	124	165	206	247	288	330	371	412
	Throw	9.0	11.0	18.0	19.0	20.0	22.0	24.0	27.0

302106 Two-Way SideWall/Ceiling Register

Face	m/s	1.52	2.03	2.54	3.05	3.56	4.06	4.57	5.08
Velocit	FPM	300	400	500	600	700	800	900	1000
Pressure Loss		0.008	0.012	0.016	0.024	0.032	0.044	0.052	0.064
6*4 Ak.080	cfm	24	32	40	48	56	64	72	80
	Throw	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0
8*4 Ak.110	cfm	33	44	55	66	77	88	99	110
	Throw	3.0	5.0	6.0	7.0	8.0	9.0	10.0	11.0
6*6 Ak.113	cfm	34	45	57	68	79	90	102	113
	Throw	4.0	5.0	6.0	7.0	8.0	10.0	11.0	12.0
10*4 Ak.125	cfm	38	50	63	75	88	100	113	125
	Throw	4.0	5.0	6.0	7.0	9.0	10.0	12.0	13.0
8*6/12*4 Ak.0.146	cfm	44	58	73	88	102	117	131	146
	Throw	5.0	6.0	7.0	9.0	10.0	11.0	12.0	14.0

302106 Two-Way SideWall/Ceiling Register(continued)

Face	m/s	1.52	2.03	2.54	3.05	3.56	4.06	4.57	5.08
Velocit	FPM	300	400	500	600	700	800	900	1000
Pressure Loss		0.008	0.012	0.016	0.024	0.032	0.044	0.052	0.064
10*5 Ak.150	cfm	45	60	75	90	105	120	135	150
	Throw	6.0	6.0	7.0	9.0	10.0	12.0	13.0	14.0
14*4 Ak.178	cfm	53	71	89	107	125	142	160	178
	Throw	5.0	6.0	8.0	9.0	10.0	12.0	13.0	14.0
10*6/12*5 Ak.186	cfm	56	74	93	112	130	149	167	186
	Throw	6.0	7.0	9.0	10.0	11.0	13.0	14.0	15.0
8*8/16*4 Ak.204	cfm	61	82	102	122	143	163	184	204
	Throw	6.0	7.0	9.0	10.0	12.0	14.0	15.0	16.0
12*6 Ak.236	cfm	71	94	118	142	165	189	212	236
	Throw	6.0	8.0	9.0	11.0	13.0	14.0	16.0	17.0
10*8 Ak.27	cfm	81	108	135	162	189	216	243	270
	Throw	7.0	8.0	10.0	12.0	13.0	14.0	16.0	18.0
14*6 Ak.283	cfm	85	113	142	170	198	226	255	283
	Throw	7.0	8.0	10.0	12.0	13.0	14.0	16.0	18.0
10*10 Ak.304	cfm	91	122	152	182	213	243	274	304
	Throw	5.0	6.0	8.0	10.0	12.0	14.0	17.0	19.0
18*6 Ak.305	cfm	92	122	153	183	214	244	275	305
	Throw	7.0	9.0	11.0	13.0	15.0	17.0	19.0	21.0
12*8/16*6 Ak.327	cfm	98	131	164	196	229	262	294	327
	Throw	7.0	8.0	10.0	12.0	13.0	15.0	17.0	19.0
12*10/20*6 Ak.337	cfm	101	135	169	202	236	270	303	337
	Throw	7.0	8.0	10.0	12.0	13.0	15.0	17.0	19.0
16*8 Ak.0.358	cfm	107	143	179	215	251	286	322	358
	Throw	7.0	9.0	11.0	12.0	14.0	16.0	18.0	20.0
14*10 Ak.490	cfm	147	196	245	294	343	392	441	490
	Throw	8.0	11.0	14.0	17.0	20.0	23.0	26.0	28.0
12*12/18*8 24*6 Ak.503	cfm	151	201	252	302	352	402	453	503
	Throw	9.0	12.0	15.0	18.0	21.0	24.0	27.0	29.0
20*8 Ak.560	cfm	168	224	280	336	392	448	504	560
	Throw	12.0	15.0	18.0	21.0	24.0	27.0	31.0	34.0
24*8 Ak.677	cfm	203	271	339	406	474	542	609	677
	Throw	15.0	18.0	21.0	23.0	28.0	29.0	32.0	36.0

302107 Three-Way SideWall/Ceiling Register

Face	m/s	1.52	2.03	2.54	3.05	3.56	4.06	4.57	5.08
Velocit	FPM	300	400	500	600	700	800	900	1000
Pressure Loss		0.008	0.012	0.016	0.024	0.032	0.044	0.052	0.064
8*4 Ak.093	Total cfm	28	37	47	56	65	74	84	93
	cfm L/S	14/7	18/10	25/11	29/13	34/16	39/18	44/20	49/22
	Throw L/S	4/3	6/4	7/5	8/5	9/6	10/7	11/8	12/9
	Total cfm	34	45	57	68	79	90	102	113
6*6 Ak.113	cfm L/S	11/11	15/15	18/19	22/23	25/27	29/30	32/34	36/38
	Throw L/S	4/4	5/4	7/6	8/8	8/8	9/9	10/10	11/11

DATA SUPPORT

Engineering and Performance Data

302107 Three-Way SideWall/Ceiling Register(continued)

Face	m/s	1.52	2.03	2.54	3.05	3.56	4.06	4.57	5.08
Velocit	FPM	300	400	500	600	700	800	900	1000
Pressure Loss		0.008	0.012	0.016	0.024	0.032	0.044	0.052	0.064
10*4 Ak.120	Total cfm	36	48	60	72	84	96	108	120
	cfm L/S	21/7	30/9	38/11	45/13	53/15	60/17	68/20	76/22
	Throw L/S	4/3	7/4	8/5	9/6	10/7	11/7	13/8	15/9
8*6/12*4 Ak.140	Total cfm	42	56	70	84	98	112	126	140
	cfm L/S	22/10	29/14	37/17	44/20	51/24	59/27	66/30	73/34
	Throw L/S	4/3	6/4	7/5	8/6	10/7	11/8	12/9	14/10
14*4 Ak.173	Total cfm	52	69	87	104	121	138	156	173
	cfm L/S	30/11	40/15	50/19	60/22	69/26	79/30	89/34	99/37
	Throw L/S	5/3	6/5	8/5	10/6	11/7	13/8	15/9	16/10
10*6 Ak.190	Total cfm	57	76	95	114	133	152	171	190
	cfm L/S	36/10	49/14	61/17	73/21	85/24	97/27	109/31	122/34
	Throw L/S	6/4	8/5	10/6	11/7	13/8	14/9	16/9	18/10
8*8 Ak.203	Total cfm	61	81	102	122	142	162	183	203
	cfm L/S	32/15	42/19	53/24	63/29	74/34	84/39	95/44	105/48
	Throw L/S	5/4	7/5	9/6	10/7	12/8	14/10	15/11	17/12
12*6 Ak.233	Total cfm	70	93	117	140	163	186	210	233
	cfm L/S	36/17	48/22	60/28	72/33	84/39	97/45	109/50	121/56
	Throw L/S	7/4	9/6	11/7	13/8	15/9	17/10	19/11	21/12
10*8 Ak.260	Total cfm	78	104	130	156	182	208	234	260
	cfm L/S	44/17	58/23	73/29	87/34	102/40	116/46	131/51	146/57
	Throw L/S	7/4	9/6	11/7	13/8	15/9	17/10	19/11	21/12
14*6 Ak.296	Total cfm	89	118	148	178	207	237	266	296
	cfm L/S	53/18	71/24	89/30	107/36	127/41	142/47	160/53	178/59
	Throw L/S	7/5	9/6	11/7	14/8	16/10	18/11	21/12	23/13
10*10 Ak.310	Total cfm	93	124	155	186	217	248	279	310
	cfm L/S	60/17	80/22	99/28	119/34	139/39	159/45	179/50	199/56
	Throw L/S	7/5	10/6	11/7	13/8	15/9	18/11	20/12	22/13
12*8/16*6 Ak.320	Total cfm	96	128	160	192	224	256	288	320
	cfm L/S	50/23	67/31	83/38	100/46	116/54	133/61	150/69	166/77
	Throw L/S	7/5	9/6	11/7	13/9	14/10	16/11	18/12	19/13
14*8 Ak.396	Total cfm	119	158	198	238	277	317	356	396
	cfm L/S	71/24	95/32	119/40	142/47	166/55	190/63	213/71	237/79
	Throw L/S	7/5	10/6	12/8	14/9	17/10	19/11	22/12	25/14
16*8 Ak.440	Total cfm	132	176	220	264	308	352	396	440
	cfm L/S	80/26	106/35	132/44	158/53	184/62	212/70	238/79	264/88
	Throw L/S	7/6	10/7	13/9	14/10	18/11	19/12	22/13	25/15
14*10 Ak.460	Total cfm	138	184	230	276	322	368	414	460
	cfm L/S	82/28	110/37	138/46	166/55	194/64	220/74	248/83	276/92
	Throw L/S	82/28	110/37	138/46	166/55	194/64	220/74	248/83	276/92
12*12 Ak.470	Total cfm	141	188	235	282	329	376	423	470
	cfm L/S	73/34	98/45	123/56	146/68	171/79	196/90	221/102	244/113
	Throw L/S	8/5	10/7	13/8	15/10	17/11	20/13	22/15	25/16

302107 Three-Way SideWall/Ceiling Register(continued)

Face	m/s	1.52	2.03	2.54	3.05	3.56	4.06	4.57	5.08
Velocit	FPM	300	400	500	600	700	800	900	1000
Pressure Loss		0.008	0.012	0.016	0.024	0.032	0.044	0.052	0.064
14*14 Ak.663	Total cfm	199	265	332	398	464	530	597	663
	cfm L/S	119/40	159/53	200/66	238/80	278/93	318/106	359/119	397/133
	Throw L/S	10/6	12/8	16/9	18/11	21/13	24/14	27/16	29/18
16*16 Ak.952	Total cfm	286	381	476	571	666	762	857	952
	cfm L/S	149/68	198/91	248/114	297/137	347/160	396/183	446/205	495/229
	Throw L/S	10/6	13/9	16/11	20/13	13/15	26/17	28/18	30/20

302108 Four-Way SideWall/Ceiling Register

Face	m/s	1.52	2.03	2.54	3.05	3.56	4.06	4.57	5.08
Velocit	FPM	300	400	500	600	700	800	900	1000
Pressure Loss		0.008	0.012	0.016	0.024	0.032	0.044	0.052	0.064
8*4 Ak.089	Total cfm	27	36	45	53	62	71	80	89
	cfm L/S	4/10	6/13	7/15	9/19	10/22	11/24	13/27	14/31
	Throw L/S	2.5/3.5	3/4	4/5	4/6	5/6.5	5/7	5.5/7.5	6/8
6*6 Ak.105	Total cfm	34	45	56	67	78	90	101	112
	cfm L/S	5/12	7/16	9/19	11/23	12/27	14/30	17/34	18/38
	Throw L/S	3/4	4/5	5/6	5/7	6/8	6/9	7/9	7/10
8*8 Ak.210	Total cfm	63	84	105	126	147	168	189	210
	cfm L/S	16/15	22/20	27/25	33/30	38/35	44/40	49/45	55/50
	Throw L/S	4/4	5/5	6/6	7/7	9/8	10/9	11/10	12/11
10*10 Ak.317	Total cfm	95	127	159	190	222	254	285	317
	cfm L/S	30/17	40/23	50/28	60/34	71/40	81/45	91/51	101/57
	Throw L/S	5/4	7/5	8/6	10/8	11/9	13/10	14/11	16/12
12*12 Ak.480	Total cfm	144	192	240	288	336	384	432	480
	cfm L/S	37/34	49/46	62/57	74/68	86/80	99/91	111/103	124/114
	Throw L/S	6/5	8/7	9/8	11/10	13/11	14/13	16/15	17/16
14*14 Ak.650	Total cfm	195	260	325	390	455	520	585	650
	cfm L/S	59/39	78/52	98/65	117/78	137/91	156/104	176/117	195/130
	Throw L/S	6/5	8/7	11/9	13/10	16/12	18/14	21/15	24/17
16*16 Ak.900	Total cfm	270	360	450	540	630	720	810	900
	cfm L/S	70/65	95/87	120/110	140/129	165/150	190/172	212/198	235/218
	Throw L/S	7/6	9/8	11/10	13/12	15/14	18/16	19/18	21/20
18*18 Ak.114	Total cfm	342	456	570	684	798	912	1026	1140
	cfm L/S	90/83	121/111	153/140	179/165	211/192	243/220	271/253	301/279
	Throw L/S	9/8	12/10	14/13	17/15	19/18	23/20	24/23	27/25

302113 Aluminum Wall/Ceiling Register

Face	m/s	1.52	2.03	2.54	3.05	3.56	4.06	4.57	5.08
Velocit	FPM	300	400	500	600	700	800	900	1000
Pressure Loss		0.008	0.012	0.016	0.024	0.032	0.044	0.052	0.064
10*6 Ak.186	cfm	56	74	93	112	130	149	167	186
	Throw	6.0	7.0	9.0	10.0	11.0	13.0	14.0	15.0

Engineering and Performance Data

302113 Aluminum Wall/Ceiling Register(continued)

Face	m/s	1.52	2.03	2.54	3.05	3.56	4.06	4.57	5.08
Velocit	FPM	300	400	500	600	700	800	900	1000
Pressure Loss		0.008	0.012	0.016	0.024	0.032	0.044	0.052	0.064
12*6	cfm	71	94	118	142	165	189	212	236
Ak.236	Throw	6.0	8.0	9.0	11.0	13.0	14.0	16.0	17.0
14*6	cfm	89	118	148	177	207	236	266	295
Ak.295	Throw	7.0	8.0	10.0	12.0	13.0	15.0	17.0	19.0

302110 Two-way Supply Register

Face	m/s	1.52	2.03	2.54	3.05	3.56	4.06	4.57	5.08
Velocit	FPM	300	400	500	600	700	800	900	1000
Pressure Loss		0.008	0.012	0.016	0.024	0.032	0.044	0.052	0.064
6*4	cfm	28	37	46	55	64	74	83	92
Ak.092	Throw	5.0	6.0	7.0	9.0	10.0	11.0	13.0	14.0
8*4	cfm	38	50	63	75	88	100	113	125
Ak.125	Throw	5.0	6.0	8.0	9.0	11.0	13.0	14.0	16.0
6*6	cfm	38	51	64	77	90	102	115	128
Ak.128	Throw	5.0	6.0	8.0	9.0	11.0	13.0	14.0	16.0
10*4	cfm	47	62	78	94	109	125	140	156
Ak.156	Throw	5.0	7.0	8.0	10.0	12.0	13.0	15.0	17.0
8*6/12*4	cfm	58	77	96	115	134	154	173	192
Ak.192	Throw	6.0	7.0	9.0	11.0	13.0	15.0	17.0	19.0
10*5	cfm	66	88	110	132	154	176	198	220
Ak.22	Throw	6.0	8.0	1.0	11.0	14.0	16.0	18.0	19.0
14*4	cfm	70	94	117	140	164	187	211	234
Ak.234	Throw	7.0	9.0	11.0	14.0	15.0	17.0	19.0	21.0
10*6/12*5	cfm	76	101	126	151	176	202	227	252
Ak.252	Throw	7.0	9.0	11.0	13.0	16.0	18.0	20.0	22.0
8*8	cfm	79	105	132	158	184	210	237	263
Ak.263	Throw	7.0	9.0	11.0	14.0	16.0	18.0	21.0	23.0
12*6	cfm	93	124	155	185	216	247	278	309
Ak.309	Throw	7.0	9.0	12.0	14.0	16.0	19.0	21.0	23.0
10*8/20*4	cfm	107	143	179	214	250	286	321	357
Ak.357	Throw	8.0	10.0	12.0	15.0	18.0	20.0	23.0	25.0
14*6	cfm	112	149	186	223	260	298	335	372
Ak.372	Throw	8.0	11.0	13.0	15.0	18.0	20.0	23.0	25.0
22*4	cfm	120	160	200	239	279	319	359	399
Ak.399	Throw	8.0	11.0	13.0	15.0	18.0	21.0	23.0	25.0
12*8/16*6 /24*4 Ak.437	cfm	131	175	219	262	306	350	393	437
	Throw	8.0	11.0	14.0	16.0	19.0	22.0	25.0	27.0
26*4	cfm	145	193	241	289	337	386	434	482
Ak.482	Throw	8.0	11.0	14.0	16.0	20.0	22.0	25.0	28.0

302201 Wall/Ceiling Register Adjustable Curved-Faced Blades-A

Face	m/s	1.52	2.03	2.54	3.05	3.56	4.06	4.57	5.08	5.59	6.10
Velocit	FPM	300	400	500	600	700	800	900	1000	1100	1200
Pressure Loss		0.004	0.008	0.012	0.020	0.028	0.040	0.052	0.064	0.080	0.096
8*4	cfm	47	62	78	94	109	125	140	156	172	187
Ak.156	Throw	6.0	8.0	9.0	11.0	12.0	14.0	15.0	17.0	19.0	20.0
6*6	cfm	53	71	89	107	125	142	160	178	196	214
Ak.178	Throw	6.0	8.0	10.0	11.0	13.0	15.0	16.0	18.0	20.0	21.0
10*4	cfm	61	81	102	122	142	162	173	203	223	244
Ak.203	Throw	6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0	22.0	24.0
12*4	cfm	72	96	120	144	168	192	216	240	264	288
Ak.24	Throw	7.0	9.0	11.0	13.0	16.0	18.0	19.0	21.0	23.0	25.0
14*4	cfm	88	117	146	175	204	234	263	292	321	350
Ak.292	Throw	7.0	10.0	13.0	15.0	17.0	19.0	21.0	23.0	25.0	26.0
10*6	cfm	100	133	166	199	232	266	299	332	365	398
Ak.332	Throw	8.0	10.0	13.0	15.0	17.0	20.0	22.0	24.0	27.0	29.0
8*8	cfm	101	134	168	201	235	268	302	335	369	402
Ak.335	Throw	8.0	11.0	13.0	16.0	17.0	20.0	22.0	25.0	27.0	30.0
12*6	cfm	115	153	192	230	268	306	345	383	421	460
Ak.383	Throw	8.0	11.0	14.0	17.0	19.0	22.0	25.0	27.0	29.0	33.0
10*8	cfm	128	170	213	256	298	341	383	426	469	511
Ak.426	Throw	8.0	11.0	14.0	17.0	20.0	23.0	25.0	28.0	30.0	33.0
14*6	cfm	134	179	224	269	314	358	403	448	493	538
Ak.448	Throw	9.0	11.0	14.0	18.0	20.0	23.0	26.0	28.0	31.0	34.0
12*8 /16*6 Ak.532	cfm	160	213	266	319	372	426	479	532	585	638
	Throw	9.0	12.0	15.0	19.0	21.0	24.0	28.0	32.0	35.0	38.0
14*8	cfm	189	252	315	378	441	504	567	630	693	756
Ak.630	Throw	11.0	14.0	18.0	21.0	24.0	27.0	30.0	33.0	37.0	40.0
12*12	cfm	237	316	395	473	552	631	710	789	868	947
Ak.789	Throw	12.0	15.0	18.0	22.0	26.0	30.0	35.0	37.0	40.0	45

302201 Wall/Ceiling Register Adjustable Curved-Faced Blades-C

Face	m/s	1.52	2.03	2.54	3.05	3.56	4.06	4.57	5.08	5.59	6.10
Velocit	FPM	300	400	500	600	700	800	900	1000	1100	1200
Pressure Loss		0.004	0.008	0.012	0.020	0.028	0.040	0.052	0.064	0.080	0.096
8*4	cfm	42	56	71	85	99	113	127	141	155	169
Ak.141	Throw	4.0	6.0	7.0	9.0	10.0	12.0	13.0	15.0	16.0	17.0
6*6	cfm	49	65	82	98	114	130	147	163	179	196
Ak.163	Throw	4.0	6.0	8.0	10.0	11.0	13.0	14.0	16.0	17.0	19.0
10*4	cfm	55	73	92	110	128	146	165	183	201	220
Ak.183	Throw	4.0	6.0	9.0	10.0	11.0	14.0	15.0	16.0	18.0	19.0
12*4	cfm	66	88	110	131	153	175	197	219	241	263
Ak.219	Throw	5.0	7.0	9.0	11.0	13.0	15.0	16.0	17.0	19.0	20.0
14*4	cfm	80	106	133	159	186	212	239	265	292	318
Ak.265	Throw	6.0	8.0	11.0	13.0	15.0	16.0	18.0	20.0	21.0	23.0

DATA SUPPORT

Engineering and Performance Data

302201 Wall/Ceiling Register Adjustable Curved-Faced Blades-C(continued)

Face	m/s	1.52	2.03	2.54	3.05	3.56	4.06	4.57	5.08	5.59	6.10
Velocit	FPM	300	400	500	600	700	800	900	1000	1100	1200
Pressure Loss		0.004	0.008	0.012	0.020	0.028	0.040	0.052	0.064	0.080	0.096
10*6	cfm	90	120	150	179	209	239	269	299	329	359
Ak.299	Throw	6.0	8.0	12.0	14.0	15.0	17.0	19.0	20.0	22.0	24.0
8*8	cfm	91	121	151	181	211	242	272	302	332	362
Ak.302	Throw	7.0	9.0	12.0	14.0	15.0	18.0	19.0	21.0	23.0	26.0
12*6	cfm	104	138	173	207	242	276	311	345	380	414
Ak.345	Throw	7.0	9.0	12.0	14.0	16.0	19.0	20.0	22.0	24.0	27.0
10*8	cfm	118	157	196	235	274	314	353	392	431	470
Ak.392	Throw	7.0	9.0	12.0	15.0	16.0	19.0	21.0	24.0	26.0	28.0
14*6	cfm	125	166	208	250	291	333	374	416	458	499
Ak.416	Throw	8.0	10.0	13.0	15.0	17.0	20.0	23.0	25.0	27.0	29.0
12*8 /16*6	cfm	142	189	237	284	331	378	426	473	520	568
Ak.473	Throw	8.0	11.0	13.0	16.0	18.0	21.0	24.0	26.0	27.0	31.0
14*8	cfm	167	223	279	334	390	446	501	557	613	668
Ak.557	Throw	10.0	12.0	15.0	17.0	20.0	23.0	27.0	28.0	31.0	34.0
12*12	cfm	211	281	351	421	491	562	632	702	772	842
Ak.702	Throw	11.0	13.0	16.0	19.0	22.0	26.0	32.0	34.0	35.0	39.0

302201 Wall/Ceiling Register Adjustable Curved-Faced Blades-E

Face	m/s	1.52	2.03	2.54	3.05	3.56	4.06	4.57	5.08	5.59	6.10
Velocit	FPM	300	400	500	600	700	800	900	1000	1100	1200
Pressure Loss		0.004	0.008	0.012	0.020	0.028	0.040	0.052	0.064	0.080	0.096
8*4	cfm	38	51	64	76	89	102	114	127	140	152
Ak.127	Throw	3.0	5.0	6.0	7.0	8.0	9.0	10.0	11.0	13.0	14.0
6*6	cfm	44	58	73	88	102	117	131	146	161	175
Ak.146	Throw	3.0	5.0	6.0	8.0	9.0	10.0	11.0	13.0	14.0	16.0
10*4	cfm	50	66	83	100	116	133	149	166	183	199
Ak.166	Throw	3.0	5.0	7.0	8.0	9.0	11.0	12.0	13.0	15.0	16.0
12*4	cfm	59	79	99	118	138	158	177	197	217	236
Ak.197	Throw	4.0	5.0	7.0	9.0	10.0	12.0	13.0	14.0	16.0	17.0
14*4	cfm	72	96	120	143	167	191	215	239	263	287
Ak.239	Throw	5.0	6.0	9.0	11.0	12.0	14.0	15.0	17.0	18.0	20.0
10*6	cfm	82	109	136	163	190	210	245	272	299	326
Ak.272	Throw	5.0	6.0	10.0	11.0	12.0	14.0	16.0	18.0	19.0	21.0
8*8	cfm	83	110	138	165	193	220	248	275	303	330
Ak.275	Throw	6.0	7.0	10.0	11.0	12.0	15.0	16.0	18.0	20.0	22.0
12*6	cfm	94	126	157	188	220	251	283	314	345	377
Ak.314	Throw	6.0	7.0	10.0	11.0	13.0	15.0	17.0	18.0	20.0	23.0
10*8	cfm	105	140	175	209	244	279	314	349	384	419
Ak.349	Throw	6.0	7.0	10.0	12.0	13.0	15.0	17.0	19.0	21.0	23.0
14*6	cfm	110	147	184	220	257	294	330	367	404	440
Ak.367	Throw	6.0	8.0	10.0	12.0	14.0	14.0	18.0	19.0	21.0	23.0
12*8 /16*6	cfm	131	174	218	262	305	349	392	436	480	523
Ak.436	Throw	6.0	9.0	10.0	13.0	15.0	17.0	19.0	21.0	22.0	25.0

302201 Wall/Ceiling Register Adjustable Curved-Faced Blades-E(continued)

Face	m/s	1.52	2.03	2.54	3.05	3.56	4.06	4.57	5.08	5.59	6.10
Velocit	FPM	300	400	500	600	700	800	900	1000	1100	1200
Pressure Loss		0.004	0.008	0.012	0.020	0.028	0.040	0.052	0.064	0.080	0.096
10*10	cfm	132	176	221	265	309	353	397	441	485	529
Ak.441	Throw	7.0	9.0	11.0	14.0	16.0	18.0	20.0	21.0	23.0	25.0
14*8	cfm	155	207	259	310	362	414	465	517	569	620
Ak.517	Throw	8.0	10.0	12.0	14.0	16.0	19.0	21.0	22.0	25.0	26.0
12*12	cfm	194	259	324	388	453	518	582	647	712	776
Ak.647	Throw	9.0	11.0	13.0	15.0	19.0	22.0	25.0	28.0	29.0	30.0

302201 Wall/Ceiling Register Adjustable Curved-Faced Blades-G

Face	m/s	1.52	2.03	2.54	3.05	3.56	4.06	4.57	5.08	5.59	6.10
Velocit	FPM	300	400	500	600	700	800	900	1000	1100	1200
Pressure Loss		0.004	0.008	0.012	0.020	0.028	0.040	0.052	0.064	0.080	0.096
8*4	cfm	35	47	59	71	83	94	106	118	130	142
Ak.118	Throw	2.0	3.0	4.0	5.0	6.0	7.0	7.0	8.0	9.0	10.0
6*6	cfm	40	54	67	80	94	107	121	134	147	161
Ak.134	Throw	2.0	3.0	4.0	6.0	7.0	8.0	8.0	9.0	10.0	12.0
10*4	cfm	46	61	76	91	106	122	137	152	167	182
Ak.152	Throw	2.0	3.0	5.0	6.0	7.0	8.0	9.0	10.0	11.0	12.0
12*4	cfm	54	72	90	108	126	144	162	180	198	216
Ak.180	Throw	3.0	4.0	5.0	7.0	8.0	8.0	9.0	11.0	12.0	13.0
14*4	cfm	66	88	110	131	153	175	197	219	241	263
Ak.219	Throw	3.0	4.0	6.0	7.0	9.0	10.0	11.0	13.0	14.0	16.0
10*6	cfm	75	100	125	149	174	199	224	249	274	299
Ak.249	Throw	3.0	4.0	6.0	8.0	9.0	11.0	12.0	13.0	14.0	16.0
8*8	cfm	75	100	126	151	176	201	226	251	276	301
Ak.251	Throw	4.0	5.0	7.0	8.0	9.0	11.0	12.0	13.0	15.0	16.0
10*8	cfm	96	128	160	192	224	256	288	320	352	384
Ak.320	Throw	4.0	6.0	7.0	8.0	10.0	11.0	13.0	14.0	15.0	16.0
14*6	cfm	101	134	168	202	235	269	302	336	370	403
Ak.336	Throw	5.0	6.0	7.0	8.0	11.0	12.0	13.0	14.0	15.0	16.0
12*8 /16*6	cfm	120	160	200	239	279	319	359	399	439	479
Ak.399	Throw	5.0	7.0	8.0	9.0	12.0	13.0	14.0	15.0	16.0	18.0
10*10	cfm	121	162	202	242	283	323	364	404	444	485
Ak.404	Throw	6.0	7.0	8.0	9.0	13.0	14.0	15.0	16.0	17.0	18.0
14*8	cfm	139	185	232	278	324	370	417	463	509	556
Ak.463	Throw	6.0	7.0	8.0	10.0	13.0	14.0	16.0	17.0	18.0	19.0
12*12	cfm	178	237	296	355	414	474	533	592	651	710
Ak.592	Throw	7.0	9.0	10.0	11.0	15.0	17.0	19.0	21.0	23.0	24.0

Engineering and Performance Data

402101 Square Ceiling Diffuser 1-Way

Face Velocity	m/s	2.03	2.54	3.05	3.56	4.57	5.59	7.62
	FPM	400	500	600	700	900	1100	1500
Pressure Loss		0.016	0.024	0.040	0.052	0.092	0.144	0.280
6*6	cfm	56	70	84	98	126	154	210
Ak.14	Throw	4.0	6.0	7.0	8.0	11.0	13.0	18.0
8*8	cfm	88	110	132	154	198	242	330
Ak.22	Throw	6.0	8.0	9.0	10.0	13.0	15.0	20.0
10*10	cfm	120	150	180	210	270	330	450
Ak.30	Throw	7.0	9.0	10.0	13.0	15.0	19.0	26.0
12*12	cfm	168	210	252	294	378	462	630
Ak.42	Throw	8.0	10.0	13.0	15.0	19.0	23.0	31.0
14*14	cfm	244	305	366	427	549	671	915
Ak.61	Throw	11.0	13.0	16.0	19.0	24.0	30.0	38.0

402102 Square Ceiling Diffuser 2-Way

Face Velocity	m/s	2.03	2.54	3.05	3.56	4.57	5.59	7.62
	FPM	400	500	600	700	900	1100	1500
Pressure Loss		0.016	0.024	0.040	0.052	0.092	0.144	0.280
6*6	cfm	56	70	84	98	126	154	210
Ak.14	Throw	3.0	4.0	5.0	6.0	8.0	9.0	11.0
8*8	cfm	88	110	132	154	198	242	330
Ak.22	Throw	4.0	5.0	6.0	7.0	9.0	11.0	15.0
10*10	cfm	120	150	180	210	270	330	450
Ak.30	Throw	5.0	6.0	8.0	10.0	13.0	15.0	20.0
12*12	cfm	168	210	252	294	378	462	630
Ak.42	Throw	6.0	7.0	9.0	10.0	13.0	16.0	22.0
14*14	cfm	244	305	366	427	549	671	915
Ak.61	Throw	8.0	10.0	11.0	13.0	15.0	18.0	24.0

402103 Square Ceiling Diffuser 3-Way

Face Velocity	m/s	2.03	2.54	3.05	3.56	4.57	5.59	7.62
	FPM	400	500	600	700	900	1100	1500
Pressure Loss		0.016	0.024	0.040	0.052	0.092	0.144	0.280
6*6	cfm	56	70	84	98	126	154	210
Ak.14	Throw L/S	4/3	5/4	5/4	6/5	7/6	8/7	11/8
8*8	cfm	88	110	132	154	198	242	330
Ak.22	Throw L/S	4/2	5/3	6/3	7/4	10/5	12/6	15/9
10*10	cfm	120	150	180	210	270	330	450
Ak.30	Throw L/S	6/3	8/4	9/5	10/5	12/7	14/8	18/10
12*12	L/S	168	210	252	294	378	462	630
Ak.42	Throw L/S	6/4	8/5	10/6	12/7	16/9	20/11	24/16
14*14	cfm	244	305	366	427	549	671	915
Ak.61	Throw L/S	9/4	10/6	12/7	14/8	17/10	20/13	26/18

402104 Square Ceiling Diffuser 4-Way

Face Velocity	m/s	2.03	2.54	3.05	3.56	4.57	5.59	7.62
	FPM	400	500	600	700	900	1100	1500
Pressure Loss		0.016	0.024	0.040	0.052	0.092	0.144	0.280
6*6	cfm	56	70	84	98	126	154	210
Ak.14	Throw	3.0	4.0	4.0	5.0	6.0	7.0	10.0
8*8	cfm	88	110	132	154	198	242	330
Ak.22	Throw	4.0	5.0	6.0	6.0	8.0	10.0	14.0
10*10	cfm	120	150	180	210	270	330	450
Ak.30	Throw	4.0	5.0	7.0	9.0	10.0	11.0	16.0
12*12	cfm	168	210	252	294	378	462	630
Ak.42	Throw	6.0	7.0	8.0	9.0	11.0	13.0	17.0
14*14	cfm	244	305	366	427	549	671	915
Ak.61	Throw	7.0	8.0	9.0	10.0	12.0	15.0	19.0

402105 Square Ceiling Diffuser 2-Way

Face Velocity	m/s	2.03	2.54	3.05	3.56	4.57	5.59	7.62
	FPM	400	500	600	700	900	1100	1500
Pressure Loss		0.016	0.024	0.040	0.052	0.092	0.144	0.280
6*6	cfm	56	70	84	98	126	154	210
Ak.14	Throw	3.0	4.0	5.0	6.0	8.0	9.0	11.0
8*8	cfm	88	110	132	154	198	242	330
Ak.22	Throw	4.0	5.0	6.0	7.0	9.0	11.0	15.0
10*10	cfm	120	150	180	210	270	330	450
Ak.30	Throw	5.0	6.0	8.0	10.0	13.0	15.0	20.0
12*12	cfm	168	210	252	294	378	462	630
Ak.42	Throw	6.0	7.0	9.0	10.0	13.0	16.0	22.0
14*14	cfm	244	305	366	427	549	671	915
Ak.61	Throw	8.0	10.0	11.0	13.0	15.0	18.0	24.0

DATA SUPPORT

Engineering and Performance Data

401301 Vertical Single Deflector Supply

Deflection—A

Face Velocit	m/s	2.03	2.54	3.05	3.56	4.06	4.57	5.08	5.59	6.10	6.60	7.11	8.13	9.14	10.16
	FPM	400	500	600	700	800	900	1000	1100	1200	1300	1400	1600	1800	2000
Pressure Loss		0.012	0.016	0.024	0.032	0.040	0.052	0.064	0.076	0.092	0.108	0.124	0.164	0.204	0.252
8*4 Ak.162	cfm	65	81	97	113	130	146	162	178	194	211	227	259	292	324
	Throw	7.0	9.0	10.0	11.0	14.0	15.0	16.0	19.0	20.0	22.0	24.0	27.0	30.0	33.0
6*6 Ak.183	cfm	73	92	110	128	146	165	183	201	220	238	256	293	329	366
	Throw	7.0	9.0	10.0	11.5	15.0	16.0	17.0	20.0	21.0	23.0	25.0	27.0	31.0	35.0
10*4 Ak.203	cfm	82	102	122	143	163	184	204	224	245	265	286	326	367	408
	Throw	7.0	9.0	11.0	13.0	14.0	17.0	18.0	21.0	22.0	24.0	26.0	30.0	33.0	36.0
8*6/12*4 Ak.248	cfm	99	124	149	174	198	223	248	273	298	322	347	397	446	496
	Throw	8.0	11.0	13.0	14.0	16.0	19.0	20.0	23.0	24.0	27.0	29.0	33.0	37.0	41.0
14*4 Ak.287	cfm	115	144	172	201	230	258	287	316	344	373	402	459	517	574
	Throw	9.0	11.0	13.0	15.0	17.0	19.0	23.0	24.0	26.0	29.0	30.0	35.0	40.0	43.0
10*6 Ak.315	cfm	126	158	189	221	252	284	315	347	378	410	441	504	567	630
	Throw	9.0	11.0	14.0	16.0	18.0	22.0	23.0	25.0	28.0	30.0	33.0	36.0	41.0	46.0
8*8 Ak.336	cfm	134	168	202	235	269	302	336	370	403	437	470	538	605	672
	Throw	10.0	12.0	15.0	17.0	20.0	22.0	24.0	28.0	29.0	32.0	34.0	40.0	44.0	48.0
12*6 Ak.381	cfm	152	191	229	267	305	343	381	419	457	495	533	610	686	762
	Throw	10.0	12.0	15.0	17.0	21.0	22.0	26.0	27.0	30.0	33.0	36.0	41.0	45.0	50.0
10*8 Ak.421	cfm	168	211	253	295	337	379	421	463	505	547	589	674	758	842
	Throw	11.0	13.0	16.0	18.0	21.0	25.0	26.0	29.0	33.0	34.0	37.0	43.0	47.0	53.0
14*6 Ak.448	cfm	179	224	269	314	358	403	448	493	538	582	627	717	806	896
	Throw	11.0	13.0	16.0	19.0	23.0	24.0	27.0	30.0	33.0	35.0	39.0	43.0	50.0	54.0
12*8 /16*6 Ak.512	cfm	205	256	307	358	410	461	512	563	614	666	717	819	922	1024
	Throw	12.0	15.0	17.0	21.0	23.0	26.0	30.0	32.0	35.0	39.0	41.0	47.0	53.0	59.0
10*10 Ak.528	cfm	211	264	317	370	422	475	528	581	634	686	739	845	950	1056
	Throw	12.0	15.0	19.0	21.0	23.0	27.0	29.0	33.0	35.0	38.0	41.0	48.0	54.0	60.0
18*6 Ak.570	cfm	228	285	342	399	456	513	570	627	684	741	798	912	1024	1140
	Throw	12.0	15.0	18.0	22.0	24.0	28.0	30.0	33.0	37.0	39.0	43.0	49.0	55.0	61.0
14*8 Ak.591	cfm	236	296	355	414	473	532	591	650	709	768	827	946	1064	1182
	Throw	12.0	15.0	19.0	22.0	25.0	28.0	30.0	33.0	37.0	40.0	44.0	50.0	56.0	63.0
12*10 /20*6 Ak.639	cfm	256	320	383	447	511	575	639	703	767	831	895	1022	1150	1278
	Throw	13.0	16.0	19.0	23.0	25.0	29.0	32.0	36.0	39.0	42.0	45.0	51.0	58.0	65.0
16*8 Ak.684	cfm	274	342	410	479	547	616	684	752	821	889	958	1094	1231	1368
	Throw	14.0	17.0	20.0	24.0	27.0	30.0	33.0	37.0	41.0	43.0	47.0	43.0	59.0	66.0
20*10 Ak1.095	cfm	438	548	657	767	876	986	1095	1205	1314	1424	1533	1752	1971	2190
	Throw	18.0	22.0	28.0	32.0	34.0	40.0	44.0	48.0	52.0	57.0	63.0	70.0	78.0	87.0
36*6 Ak1.15	cfm	460	575	690	805	920	1035	1150	1265	1380	1495	1610	1840	2070	2300
	Throw	18.0	22.0	28.0	32.0	34.0	40.0	44.0	48.0	52.0	57.0	63.0	70.0	78.0	87.0
20*12/24*10 /30*8 Ak1.28	cfm	512	640	768	896	1024	1152	1280	1408	1536	1664	1792	2048	2304	2560
	Throw	19.0	24.0	29.0	34.0	39.0	45.0	50.0	54.0	59.0	64.0	68.0	77.0	86.0	95.0

Engineering and Performance Data

Deflection—A(continued)

Face Velocit	m/s	2.03	2.54	3.05	3.56	4.06	4.57	5.08	5.59	6.10	6.60	7.11	8.13	9.14	10.16
	FPM	400	500	600	700	800	900	1000	1100	1200	1300	1400	1600	1800	2000
Pressure Loss		0.012	0.016	0.024	0.032	0.040	0.052	0.064	0.076	0.092	0.108	0.124	0.164	0.204	0.252
16*16 Ak1.405	cfm	562	703	843	984	1124	1265	1405	1546	1686	1827	1967	2248	2529	2810
	Throw	20.0	25.0	29.0	35.0	41.0	46.0	51.0	57.0	63.0	70.0	77.0	85.0	92.0	102.0
20*14 Ak1.49	cfm	596	745	894	1043	1192	1341	1490	1639	1788	1937	2086	2384	2682	2980
	Throw	22.0	26.0	31.0	38.0	44.0	50.0	55.0	60.0	65.0	70.0	75.0	85.0	95.0	105.0
24*12 Ak1.53	cfm	612	765	918	1071	1224	1377	1530	1683	1836	1989	2142	2448	2754	3060
	Throw	22.0	27.0	32.0	39.0	45.0	51.0	56.0	61.0	66.0	71.0	76.0	86.0	97.0	106.0
20*8 Ak.869	cfm	348	435	521	608	695	782	769	956	1043	1130	1217	1390	1564	1738
	Throw	15.0	19.0	24.0	27.0	30.0	35.0	38.0	42.0	45.0	50.0	54.0	61.0	68.0	75.0
14*12 Ak.895	cfm	358	448	537	627	716	806	895	985	1074	1164	1253	1432	1611	1790
	Throw	15.0	19.0	22.0	26.0	30.0	34.0	37.0	42.0	45.0	50.0	53.0	61.0	68.0	76.0
18*10 /30*6 Ak.96	cfm	384	480	576	672	768	864	960	1056	1152	1248	1344	1536	1728	1920
	Throw	16.0	21.0	26.0	30.0	33.0	38.0	42.0	46.0	50.0	55.0	60.0	67.0	75.0	82.0
16*12 /24*8 Ak1.071	cfm	426	532	638	745	851	958	1064	1170	1277	1383	1490	1702	1915	2128
	Throw	17.0	21.0	25.0	30.0	33.0	37.0	42.0	46.0	50.0	54.0	59.0	66.0	75.0	83.0
20*10 Ak1.095	cfm	438	548	657	767	876	986	1095	1205	1314	1424	1533	1752	1971	2190
	Throw	18.0	22.0	28.0	32.0	34.0	40.0	44.0	48.0	52.0	57.0	63.0	70.0	78.0	87.0
36*6 Ak1.15	cfm	460	575	690	805	920	1035	1150	1265	1380	1495	1610	1840	2070	2300
	Throw	18.0	22.0	28.0	32.0	34.0	40.0	44.0	48.0	52.0	57.0	63.0	70.0	78.0	87.0
20*12/24*10 /30*8 Ak1.28	cfm	512	640	768	896	1024	1152	1280	1408	1536	1664	1792	2048	2304	2560
	Throw	19.0	24.0	29.0	34.0	39.0	45.0	50.0	54.0	59.0	64.0	68.0	77.0	86.0	95.0
16*16 Ak1.405	cfm	562	703	843	984	1124	1265	1405	1546	1686	1827	1967	2248	2529	2810
	Throw	20.0	25.0	29.0	35.0	41.0	46.0	51.0	57.0	63.0	70.0	77.0	85.0	92.0	102.0
20*14 Ak1.49	cfm	596	745	894	1043	1192	1341	1490	1639	1788	1937	2086	2384	2682	2980
	Throw	22.0	26.0	31.0	38.0	44.0	50.0	55.0	60.0	65.0	70.0	75.0	85.0	95.0	105.0
24*12 Ak1.53	cfm	612	765	918	1071	1224	1377	1530	1683	1836	1989	2142	2448	2754	3060
	Throw	22.0	27.0	32.0	39.0	45.0	51.0	56.0	61.0	66.0	71.0	76.0	86.0	97.0	106.0
30*10 Ak1.60	cfm	640	800	960	1120	1280	1440	1600	1760	1920	2080	2240	2560	2880	3200
	Throw	23.0	27.0	34.0	40.0	46.0	52.0	57.0	62.0	68.0	72.0	78.0	88.0	98.0	109.0
18*18 Ak1.72	cfm	688	860	1032	1204	1376	1548	1720	1892	2064	2236	2408	2752	3096	3440
	Throw	24.0	28.0	32.0	43.0	48.0	55.0	60.0	65.0	71.0	74.0	81.0	90.0	101.0	112.0
30*12 Ak1.91	cfm	764	955	1146	1337	1528	1719	1910	2101	2292	2483	2674	3056	3438	3820
	Throw	25.0	29.0	35.0	47.0	51.0	58.0	62.0	69.0	74.0	78.0	85.0	96.0	105.0	118.0
20*20 Ak2.13	cfm	852	1065	1278	1491	1704	1917	2130	2343	2556	2769	2982	3408	3834	4260
	Throw	27.0	31.0	38.0	51.0	55.0	63.0	68.0	76.0	81.0	85.0	92.0	103.0	112.0	125.0
30*18 Ak2.87	cfm	1148	1435	1722	2009	2296	2583	2870	3157	3444	3731	4018	4592	5166	5740
	Throw	30.0	37.0	46.0	53.0	59.0	68.0	75.0	82.0	89.0	98.0	107.0	119.0	134.0	146.0
24*24 Ak3.06	cfm	1224	1530	1836	2142	2448	2754	3060	3366	3672	3978	4284	4896	5508	6120
	Throw	40.0	46.0	53.0	68.0	78.0	87.0	98.0	106.0	115.0	120.0	135.0	148.0	160.0	178.0

DATA SUPPORT

Engineering and Performance Data

Deflection——C

Face Velocit	m/s	2.03	2.54	3.05	3.56	4.06	4.57	5.08	5.59	6.10	6.60	7.11	8.13	9.14	10.16
	FPM	400	500	600	700	800	900	1000	1100	1200	1300	1400	1600	1800	2000
Pressure Loss		0.012	0.016	0.024	0.032	0.040	0.052	0.064	0.076	0.092	0.108	0.124	0.164	0.204	0.252
8*4 Ak.142	cfm	57	71	85	99	114	128	142	156	170	185	199	227	256	284
	Throw	4.0	5.0	7.0	8.0	9.0	10.0	12.0	13.0	14.0	15.0	16.0	18.0	20.0	23.0
6*6 Ak.160	cfm	64	80	96	112	128	144	160	176	192	208	224	256	288	320
	Throw	5.0	6.0	8.0	9.0	10.0	11.0	13.0	14.0	15.0	17.0	18.0	20.0	22.0	25.0
10*4 Ak.179	cfm	72	90	107	125	143	161	179	198	215	233	251	286	322	358
	Throw	5.0	7.0	8.0	10.0	11.0	12.0	14.0	16.0	17.0	18.0	20.0	22.0	26.0	28.0
8*6/12*4 Ak.216	cfm	86	108	130	151	173	194	216	238	259	281	302	346	389	432
	Throw	6.0	8.0	10.0	11.0	13.0	14.0	15.0	17.0	18.0	21.0	22.0	24.0	28.0	30.0
14*4 Ak.254	cfm	102	127	152	178	203	229	254	279	305	330	356	406	457	508
	Throw	7.0	8.0	10.0	12.0	13.0	15.0	16.0	19.0	20.0	23.0	24.0	26.0	31.0	34.0
10*6 Ak.284	cfm	114	142	170	199	227	256	284	312	341	369	398	454	511	568
	Throw	7.0	9.0	10.0	12.0	14.0	16.0	17.0	19.0	21.0	23.0	24.0	27.0	32.0	35.0
8*8 Ak.294	cfm	118	147	176	206	235	265	294	323	353	382	412	470	529	588
	Throw	7.0	9.0	10.0	12.0	14.0	16.0	17.0	20.0	21.0	23.0	25.0	28.0	33.0	36.0
12*6 Ak.338	cfm	135	169	203	237	270	304	338	372	406	439	473	541	608	676
	Throw	8.0	10.0	11.0	13.0	15.0	18.0	19.0	21.0	23.0	26.0	27.0	30.0	34.0	38.0
10*8 Ak.371	cfm	148	186	223	260	297	334	371	408	445	482	519	594	668	742
	Throw	8.0	10.0	12.0	14.0	17.0	18.0	20.0	22.0	24.0	27.0	28.0	32.0	37.0	40.0
14*6 Ak.393	cfm	157	197	236	275	314	354	393	432	472	511	550	629	707	786
	Throw	8.0	10.0	13.0	14.0	17.0	19.0	20.0	24.0	25.0	27.0	30.0	33.0	38.0	42.0
12*8/16*6 Ak.463	cfm	185	232	278	324	370	417	463	509	556	602	648	741	833	926
	Throw	9.0	11.0	13.0	16.0	18.0	21.0	22.0	24.0	27.0	28.0	32.0	36.0	40.0	45.0
10*10 Ak.475	cfm	190	238	285	333	380	428	475	523	570	618	665	760	855	950
	Throw	9.0	11.0	13.0	16.0	18.0	20.0	22.0	26.0	27.0	29.0	33.0	37.0	41.0	46.0
18*6 Ak.504	cfm	202	252	302	353	403	454	504	554	605	655	706	806	907	1008
	Throw	10.0	11.0	14.0	17.0	18.0	22.0	24.0	26.0	29.0	31.0	34.0	38.0	43.0	48.0
14*8 Ak.532	cfm	213	266	319	372	426	479	532	585	638	692	745	851	958	1064
	Throw	10.0	12.0	14.0	17.0	19.0	21.0	23.0	26.0	29.0	31.0	35.0	39.0	44.0	49.0
12*10/20*6 Ak.576	cfm	230	288	346	403	461	518	576	634	691	749	806	922	1037	1152
	Throw	10.0	14.0	15.0	17.0	19.0	23.0	25.0	27.0	30.0	32.0	35.0	40.0	46.0	52.0
16*8 Ak.624	cfm	250	312	374	437	499	562	624	686	749	811	874	998	1123	1248
	Throw	10.0	12.0	15.0	18.0	20.0	23.0	26.0	28.0	31.0	34.0	37.0	42.0	48.0	54.0
14*10 Ak.695	cfm	278	348	417	487	556	626	695	765	834	904	973	1112	1251	1390
	Throw	11.0	14.0	16.0	19.0	21.0	24.0	27.0	29.0	31.0	34.0	38.0	43.0	50.0	56.0
12*12/18*8 /24*6 Ak.735	cfm	294	368	441	515	588	662	735	809	882	956	1029	1176	1323	1470
	Throw	11.0	15.0	16.0	19.0	21.0	25.0	27.0	30.0	33.0	35.0	38.0	45.0	51.0	58.0
20*8 Ak.792	cfm	317	396	475	554	634	713	792	871	950	1030	1109	1267	1426	1584
	Throw	11.0	15.0	17.0	21.0	24.0	27.0	30.0	33.0	36.0	39.0	43.0	49.0	54.0	60.0
14*12 Ak.836	cfm	334	418	502	585	669	752	836	920	1003	1087	1170	1338	1505	1672
	Throw	12.0	16.0	18.0	22.0	25.0	28.0	31.0	34.0	37.0	40.0	44.0	50.0	56.0	61.0

Engineering and Performance Data

Deflection—C(continued)

Face Velocit	m/s	2.03	2.54	3.05	3.56	4.06	4.57	5.08	5.59	6.10	6.60	7.11	8.13	9.14	10.16
	FPM	400	500	600	700	800	900	1000	1100	1200	1300	1400	1600	1800	2000
Pressure Loss		0.012	0.016	0.024	0.032	0.040	0.052	0.064	0.076	0.092	0.108	0.124	0.164	0.204	0.252
18*10/30*6 Ak.878	cfm	351	439	527	615	702	790	878	966	1054	1141	1229	1405	1580	1756
	Throw	13.0	16.0	19.0	23.0	26.0	29.0	32.0	35.0	38.0	41.0	45.0	51.0	58.0	63.0
16*12/24*8 Ak.957	cfm	383	479	574	670	766	861	957	1053	1148	1244	1340	1531	1723	1914
	Throw	13.0	16.0	20.0	24.0	27.0	30.0	33.0	37.0	39.0	43.0	47.0	53.0	60.0	67.0
14*14 Ak.980	cfm	392	490	588	686	784	882	980	1078	1176	1274	1372	1568	1764	1960
	Throw	14.0	17.0	20.0	23.0	26.0	31.0	34.0	38.0	40.0	44.0	48.0	54.0	61.0	68.0
20*10 Ak.992	cfm	397	496	595	694	794	893	992	1091	1190	1290	1389	1587	1786	1984
	Throw	14.0	18.0	21.0	24.0	27.0	31.0	35.0	39.0	41.0	45.0	49.0	57.0	62.0	70.0
36*6 Ak1.05	cfm	420	525	630	735	840	945	1050	1155	1260	1365	1470	1680	1890	2100
	Throw	15.0	18.0	21.0	24.0	28.0	32.0	36.0	39.0	43.0	47.0	51.0	59.0	64.0	72.0
12*12/18*8 /24*6 Ak.735	cfm	488	610	732	854	976	1098	1220	1342	1464	1586	1708	1952	2196	2440
	Throw	15.0	19.0	22.0	26.0	30.0	33.0	37.0	41.0	45.0	49.0	53.0	61.0	67.0	74.0
16*16 Ak1.294	cfm	518	647	776	906	1035	1165	1294	1423	1553	1682	1812	2070	2329	2588
	Throw	16.0	19.0	23.0	28.0	30.0	34.0	38.0	40.0	46.0	50.0	54.0	62.0	70.0	77.0
20*14 Ak1.40	cfm	560	700	840	980	1120	1260	1400	1540	1680	1820	1960	2240	2520	2800
	Throw	16.0	20.0	24.0	28.0	31.0	35.0	40.0	43.0	47.0	51.0	55.0	63.0	73.0	80.0
24*12 Ak1.46	cfm	584	730	876	1022	1168	1314	1460	1606	1752	1898	2044	2336	2628	2920
	Throw	17.0	21.0	25.0	29.0	33.0	37.0	41.0	45.0	49.0	53.0	57.0	65.0	75.0	82.0
30*10 Ak1.50	cfm	600	750	900	1050	1200	1350	1500	1650	1800	1950	2100	2400	2700	3000
	Throw	17.0	22.0	27.0	31.0	35.0	39.0	43.0	47.0	51.0	55.0	59.0	67.0	77.0	84.0
18*18 Ak1.647	cfm	659	824	988	1153	1318	1482	1647	1812	1976	2141	2306	2376	2673	2970
	Throw	18.0	22.0	27.0	31.0	36.0	42.0	40.0	48.0	52.0	56.0	63.0	72.0	80.0	87.0
30*12 Ak1.795	cfm	718	898	1077	1257	1168	1314	1460	1606	1752	1898	2044	2336	2628	2920
	Throw	18.0	23.0	28.0	32.0	37.0	42.0	46.0	51.0	55.0	59.0	67.0	76.0	84.0	91.0
20*20 Ak1.914	cfm	676	845	1014	1183	1352	1521	1690	1859	2028	2197	2366	2704	3042	3380
	Throw	19.0	24.0	29.0	34.0	39.0	44.0	48.0	53.0	58.0	62.0	73.0	81.0	89.0	98.0
30*18 Ak2.65	cfm	1060	1325	1590	1855	2120	2385	2650	2915	3444	3445	3710	4240	4770	5300
	Throw	22.0	28.0	34.0	40.0	46.0	52.0	59.0	66.0	70.0	75.0	82.0	91.0	100.0	112.0
24*24 Ak2.83	cfm	1132	1415	1698	1981	2264	2547	2830	3113	3396	3679	3962	4528	5094	5660
	Throw	23.0	29.0	35.0	43.0	49.0	55.0	62.0	69.0	73.0	78.0	85.0	96.0	106.0	117.0

Deflection—E

Face Velocit	m/s	2.03	2.54	3.05	3.56	4.06	4.57	5.08	5.59	6.10	6.60	7.11	8.13	9.14	10.16
	FPM	400	500	600	700	800	900	1000	1100	1200	1300	1400	1600	1800	2000
Pressure Loss		0.012	0.016	0.024	0.032	0.040	0.052	0.064	0.076	0.092	0.108	0.124	0.164	0.204	0.252
8*4 Ak.125	cfm	50	63	75	88	100	113	125	138	150	163	175	200	225	250
	Throw	4.0	5.0	6.0	7.0	8.0	9.0	10.0	11.0	12.0	13.0	14.0	16.0	17.0	19.0
6*6 Ak.141	cfm	60	75	90	105	120	135	150	165	180	195	210	240	270	300
	Throw	4.0	5.0	6.0	7.0	8.0	9.0	10.0	11.0	12.0	13.0	14.0	16.0	17.0	19.0

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Engineering and Performance Data

Deflection — E(continued)

Face Velocit	m/s	2.03	2.54	3.05	3.56	4.06	4.57	5.08	5.59	6.10	6.60	7.11	8.13	9.14	10.16
	FPM	400	500	600	700	800	900	1000	1100	1200	1300	1400	1600	1800	2000
Pressure Loss		0.012	0.016	0.024	0.032	0.040	0.052	0.064	0.076	0.092	0.108	0.124	0.164	0.204	0.252
10"4 Ak.159	cfm	64	80	95	111	127	143	159	175	191	207	223	254	286	318
	Throw	4.0	5.0	7.0	8.0	9.0	10.0	11.0	12.0	13.0	15.0	16.0	18.0	20.0	21.0
8"6/12"4 Ak.191	cfm	76	96	115	134	153	172	191	210	229	248	267	306	344	382
	Throw	5.0	6.0	7.0	8.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	18.0	20.0	23.0
14"4 Ak.224	cfm	90	112	134	157	179	202	224	246	269	291	314	358	403	448
	Throw	5.0	7.0	8.0	9.0	10.0	12.0	13.0	14.0	15.0	16.0	18.0	19.0	23.0	25.0
10"6 Ak.246	cfm	98	123	148	172	197	221	246	271	295	320	344	394	443	492
	Throw	6.0	7.0	8.0	10.0	11.0	12.0	13.0	14.0	16.0	17.0	19.0	20.0	24.0	26.0
8"8 Ak.261	cfm	104	131	157	183	209	235	261	287	313	339	365	418	470	522
	Throw	6.0	7.0	8.0	10.0	11.0	12.0	14.0	15.0	16.0	17.0	19.0	21.0	24.0	27.0
12"6 Ak.295	cfm	118	148	177	207	236	266	295	325	354	384	413	472	531	590
	Throw	6.0	7.0	9.0	10.0	11.0	14.0	15.0	16.0	17.0	19.0	20.0	22.0	26.0	29.0
10"8 Ak.327	cfm	131	164	196	229	262	294	327	360	392	425	458	523	589	654
	Throw	7.0	8.0	10.0	11.0	12.0	14.0	16.0	17.0	18.0	19.0	21.0	25.0	27.0	30.0
14"6 Ak.347	cfm	139	174	208	243	278	312	347	382	416	451	486	555	625	694
	Throw	7.0	8.0	9.0	12.0	13.0	14.0	15.0	17.0	19.0	21.0	22.0	25.0	29.0	31.0
12"8/16"6 Ak.398	cfm	159	199	239	279	318	358	398	438	478	517	557	637	716	796
	Throw	7.0	8.0	10.0	12.0	13.0	15.0	17.0	18.0	19.0	22.0	23.0	27.0	30.0	32.0
10"10 Ak.410	cfm	164	205	246	287	328	369	410	451	492	533	574	656	738	820
	Throw	7.0	9.0	10.0	11.0	14.0	15.0	17.0	19.0	20.0	22.0	23.0	27.0	31.0	34.0
18"6 Ak.443	cfm	177	222	266	310	354	399	443	487	532	576	620	709	797	886
	Throw	7.0	9.0	10.0	12.0	14.0	15.0	18.0	21.0	22.0	23.0	24.0	29.0	31.0	35.0
14"8 Ak.459	cfm	184	230	275	321	367	413	459	505	551	597	643	734	826	918
	Throw	7.0	9.0	11.0	12.0	14.0	16.0	18.0	19.0	21.0	22.0	25.0	28.0	32.0	35.0
12"10/20"6 Ak.486	cfm	194	243	292	340	389	437	486	535	583	632	680	778	875	972
	Throw	8.0	9.0	11.0	12.0	14.0	16.0	18.0	19.0	22.0	24.0	26.0	30.0	34.0	37.0
16"8 Ak.531	cfm	212	266	319	372	425	478	531	584	637	690	743	850	956	1062
	Throw	8.0	10.0	12.0	14.0	16.0	18.0	20.0	22.0	23.0	25.0	27.0	31.0	35.0	40.0
14"10 Ak.581	cfm	232	291	349	407	465	523	581	639	697	755	813	930	1046	1162
	Throw	9.0	10.0	12.0	14.0	16.0	18.0	20.0	22.0	24.0	26.0	28.0	32.0	36.0	41.0
12"12/18"8 24"6 Ak.599	cfm	240	300	359	419	479	539	599	659	719	779	839	958	1078	1198
	Throw	9.0	11.0	13.0	14.0	17.0	18.0	21.0	22.0	24.0	26.0	28.0	33.0	37.0	41.0
20"8 Ak.675	cfm	270	338	405	473	540	608	675	743	810	878	945	1080	1215	1350
	Throw	9.0	11.0	13.0	15.0	18.0	19.0	22.0	23.0	25.0	28.0	30.0	35.0	39.0	43.0
14"12 Ak.683	cfm	273	342	410	478	546	615	683	751	820	888	956	1093	1229	1366
	Throw	9.0	11.0	15.0	17.0	19.0	22.0	24.0	26.0	28.0	31.0	32.0	37.0	43.0	47.0
18"10/30"6 Ak.770	cfm	308	385	462	539	616	693	770	847	924	1001	1078	1232	1386	1540
	Throw	10.0	12.0	15.0	17.0	20.0	23.0	25.0	27.0	29.0	32.0	33.0	38.0	44.0	49.0
16"12/24"8 Ak.781	cfm	312	391	469	547	625	703	781	859	937	1015	1093	1250	1406	1562
	Throw	11.0	12.0	16.0	18.0	21.0	24.0	26.0	28.0	30.0	33.0	34.0	39.0	45.0	50.0

Engineering and Performance Data

Deflection—E(continued)

Face Velocit	m/s	2.03	2.54	3.05	3.56	4.06	4.57	5.08	5.59	6.10	6.60	7.11	8.13	9.14	10.16
	FPM	400	500	600	700	800	900	1000	1100	1200	1300	1400	1600	1800	2000
Pressure Loss		0.012	0.016	0.024	0.032	0.040	0.052	0.064	0.076	0.092	0.108	0.124	0.164	0.204	0.252
14"14 Ak.814	cfm	326	407	488	570	651	733	814	895	977	1058	1140	1302	1465	1628
	Throw	11.0	12.0	17.0	20.0	22.0	26.0	27.0	29.0	31.0	34.0	35.0	41.0	47.0	52.0
20"10 Ak.832	cfm	333	416	499	582	666	749	832	915	998	1082	1165	1331	1498	1664
	Throw	11.0	13.0	17.0	20.0	23.0	26.0	28.0	29.0	31.0	35.0	38.0	44.0	49.0	54.0
36"6 Ak.880	cfm	352	413	528	616	704	792	880	968	1056	1144	1232	1408	1584	1760
	Throw	12.0	14.0	17.0	20.0	24.0	27.0	29.0	30.0	32.0	36.0	39.0	45.0	50.0	55.0
20"12/24"10 /30"8 Ak.978	cfm	391	489	587	685	782	880	978	1076	1174	1271	1369	1565	1760	1956
	Throw	12.0	14.0	17.0	20.0	25.0	28.0	30.0	32.0	34.0	38.0	41.0	47.0	51.0	56.0
16"16 Ak1.091	cfm	436	546	655	764	873	982	1091	1200	1309	1418	1527	1746	1964	2182
	Throw	12.0	14.0	18.0	20.0	25.0	29.0	30.0	33.0	35.0	39.0	42.0	48.0	52.0	57.0
20"14 Ak1.14	cfm	546	570	684	798	912	1026	1140	1254	1368	1482	1596	1824	2052	2280
	Throw	12.0	15.0	18.0	20.0	26.0	28.0	30.0	33.0	36.0	40.0	42.0	48.0	54.0	58.0
24"12 Ak1.175	cfm	470	588	705	823	940	1058	1175	1293	1410	1528	1645	1880	2115	2350
	Throw	12.0	15.0	18.0	21.0	26.0	28.0	31.0	34.0	36.0	40.0	42.0	48.0	55.0	60.0
30"10 Ak1.21	cfm	484	605	726	847	968	1089	1210	1331	1452	1573	1694	1936	2178	2420
	Throw	13.0	15.0	18.0	21.0	26.0	28.0	31.0	34.0	37.0	41.0	44.0	50.0	57.0	63.0
18"18 Ak1.322	cfm	529	661	793	925	1058	1190	1322	1454	1586	1719	1851	2115	2380	2644
	Throw	13.0	16.0	19.0	22.0	26.0	29.0	32.0	35.0	39.0	43.0	46.0	52.0	59.0	65.0
30"12 Ak1.44	cfm	576	720	864	1008	1152	1296	1440	1584	1728	1872	2016	2304	2592	2880
	Throw	13.0	17.0	20.0	24.0	27.0	31.0	34.0	38.0	41.0	45.0	48.0	55.0	62.0	68.0
20"20 Ak1.59	cfm	636	795	954	1113	1272	1431	1590	1749	1908	2067	2226	2544	2862	3180
	Throw	14.0	18.0	22.0	25.0	28.0	32.0	35.0	39.0	42.0	46.0	50.0	57.0	64.0	72.0
30"18 Ak2.12	cfm	848	1060	1272	1484	1696	1908	2120	2332	2544	2756	2968	3392	3816	4240
	Throw	15.0	19.0	23.0	27.0	31.0	35.0	39.0	43.0	46.0	50.0	54.0	62.0	70.0	78.0
24"24 Ak2.25	cfm	900	1125	1350	1575	1800	2025	2250	2475	2700	2925	3150	3600	4050	4500
	Throw	16.0	20.0	24.0	28.0	32.0	36.0	40.0	44.0	47.0	51.0	56.0	64.0	72.0	80.0

Deflection—G

Face Velocit	m/s	2.03	2.54	3.05	3.56	4.06	4.57	5.08	5.59	6.10	6.60	7.11	8.13	9.14	10.16
	FPM	400	500	600	700	800	900	1000	1100	1200	1300	1400	1600	1800	2000
Pressure Loss		0.012	0.016	0.024	0.032	0.040	0.052	0.064	0.076	0.092	0.108	0.124	0.164	0.204	0.252
8"4 Ak.120	cfm	48	60	72	84	96	108	120	132	144	156	168	192	216	240
	Throw	3.0	4.0	5.0	5.0	6.0	7.0	7.0	8.0	9.0	10.0	10.0	11.0	13.0	14.0
6"6 Ak.134	cfm	54	67	80	94	107	121	134	147	161	174	188	214	241	268
	Throw	3.0	4.0	5.0	6.0	6.0	7.0	8.0	8.0	9.0	10.0	10.0	11.0	13.0	14.0
10"4 Ak.145	cfm	58	73	87	102	116	131	145	160	174	189	203	232	261	290
	Throw	3.0	4.0	5.0	6.0	6.0	7.0	8.0	8.0	9.0	10.0	10.0	12.0	13.0	14.0
8"6 /12"4 Ak.175	cfm	70	88	105	123	140	158	175	193	210	228	245	280	315	350
	Throw	3.0	4.0	5.0	6.0	7.0	8.0	8.0	9.0	10.0	11.0	12.0	13.0	14.0	16.0

DATA SUPPORT

Engineering and Performance Data

Deflection—G(continued)

Face Velocit	m/s	2.03	2.54	3.05	3.56	4.06	4.57	5.08	5.59	6.10	6.60	7.11	8.13	9.14	10.16
	FPM	400	500	600	700	800	900	1000	1100	1200	1300	1400	1600	1800	2000
Pressure Loss		0.012	0.016	0.024	0.032	0.040	0.052	0.064	0.076	0.092	0.108	0.124	0.164	0.204	0.252
14*4 Ak.224	cfm	82	102	122	143	163	184	204	224	245	265	286	326	367	408
	Throw	4.0	5.0	6.0	7.0	8.0	8.0	9.0	10.0	11.0	12.0	13.0	14.0	15.0	17.0
10*6 Ak.226	cfm	90	113	136	158	181	203	226	249	271	294	316	362	407	452
	Throw	4.0	5.0	6.0	7.0	8.0	8.0	9.0	10.0	11.0	12.0	13.0	14.0	15.0	17.0
8*8 Ak.236	cfm	94	118	142	165	189	212	236	260	283	307	330	378	425	472
	Throw	4.0	5.0	5.0	6.0	7.0	8.0	9.0	10.0	11.0	12.0	13.0	15.0	16.0	18.0
12*6 Ak.269	cfm	108	135	161	188	215	242	269	296	323	350	377	430	484	538
	Throw	4.0	5.0	6.0	7.0	8.0	9.0	10.0	11.0	12.0	13.0	14.0	15.0	18.0	19.0
10*8 Ak.298	cfm	119	149	179	209	238	268	298	328	358	387	417	477	536	596
	Throw	5.0	5.0	6.0	7.0	8.0	9.0	10.0	11.0	13.0	14.0	15.0	16.0	19.0	20.0
14*6 Ak.323	cfm	127	159	191	223	254	286	318	350	382	413	445	509	572	636
	Throw	5.0	6.0	7.0	8.0	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	19.0	21.0
12*8/16*6 Ak.372	cfm	146	183	219	256	292	329	365	402	438	475	511	584	657	730
	Throw	5.0	6.0	7.0	8.0	9.0	10.0	12.0	13.0	14.0	15.0	16.0	17.0	20.0	23.0
10*10 Ak.375	cfm	150	188	225	263	300	338	375	413	450	488	525	600	675	750
	Throw	5.0	6.0	7.0	8.0	9.0	1.0	11.0	13.0	14.0	15.0	16.0	18.0	21.0	23.0
18*6 Ak.403	cfm	161	202	242	282	322	363	403	443	484	524	564	645	725	806
	Throw	5.0	6.0	7.0	8.0	9.0	10.0	11.0	13.0	14.0	15.0	17.0	18.0	22.0	24.0
14*8 Ak.419	cfm	168	210	251	293	335	377	419	461	503	545	587	670	754	838
	Throw	5.0	7.0	7.0	8.0	10.0	11.0	12.0	13.0	14.0	15.0	18.0	19.0	22.0	24.0
12*10/20*6 Ak.424	cfm	170	212	254	297	339	382	424	466	509	551	594	678	763	848
	Throw	5.0	7.0	7.0	8.0	10.0	11.0	12.0	13.0	14.0	15.0	18.0	19.0	22.0	24.0
16*8 Ak.485	cfm	194	243	291	340	388	437	485	534	582	631	679	776	873	970
	Throw	6.0	7.0	8.0	9.0	10.0	11.0	13.0	15.0	16.0	17.0	19.0	21.0	24.0	27.0
14*10 Ak.530	cfm	212	265	318	371	424	477	530	583	636	689	742	848	954	1060
	Throw	6.0	7.0	8.0	9.0	10.0	11.0	13.0	15.0	16.0	18.0	20.0	22.0	25.0	28.0
12*12/18*8 24*6 Ak.547	cfm	219	274	328	383	438	492	547	602	656	711	766	875	985	1094
	Throw	6.0	7.0	8.0	9.0	10.0	11.0	13.0	15.0	17.0	18.0	20.0	22.0	25.0	28.0
20*8 Ak.616	cfm	246	308	370	431	493	554	616	678	739	801	862	986	1109	1232
	Throw	6.0	7.0	9.0	10.0	11.0	13.0	14.0	16.0	18.0	20.0	22.0	25.0	27.0	30.0
14*12 Ak.629	cfm	252	315	377	440	503	566	629	692	755	818	881	1006	1132	1258
	Throw	6.0	7.0	9.0	10.0	12.0	14.0	15.0	17.0	19.0	21.0	23.0	26.0	28.0	31.0
18*10/30*6 Ak.680	cfm	272	340	408	476	544	612	680	48	816	884	952	1088	1224	1360
	Throw	7.0	8.0	10.0	11.0	13.0	15.0	16.0	18.0	20.0	21.0	23.0	27.0	29.0	32.0
16*12/24*8 Ak.725	cfm	290	363	435	508	580	653	725	798	870	943	1015	1160	1305	1450
	Throw	7.0	8.0	10.0	12.0	14.0	16.0	17.0	18.0	20.0	21.0	23.0	27.0	30.0	33.0
14*14 Ak.768	cfm	307	384	461	538	614	691	768	845	922	998	1075	1229	1382	1536
	Throw	7.0	8.0	10.0	12.0	15.0	17.0	18.0	19.0	21.0	22.0	24.0	28.0	31.0	34.0
20*10 Ak.804	cfm	322	402	482	563	643	724	804	884	965	1045	1126	1286	1447	1608
	Throw	7.0	9.0	11.0	12.0	15.0	17.0	18.0	20.0	22.0	23.0	26.0	28.0	33.0	36.0

Engineering and Performance Data

Deflection—G(continued)

Face Velocit	m/s	2.03	2.54	3.05	3.56	4.06	4.57	5.08	5.59	6.10	6.60	7.11	8.13	9.14	10.16
	FPM	400	500	600	700	800	900	1000	1100	1200	1300	1400	1600	1800	2000
Pressure Loss		0.012	0.016	0.024	0.032	0.040	0.052	0.064	0.076	0.092	0.108	0.124	0.164	0.204	0.252
36*6 Ak.843	cfm	337	422	506	590	674	759	843	927	1012	1096	1180	1349	1517	1686
	Throw	8.0	10.0	12.0	15.0	17.0	19.0	20.0	22.0	24.0	25.0	28.0	30.0	35.0	38.0
20*12/24*10 /30*8 Ak.920	cfm	368	460	552	644	736	828	920	1012	1104	1196	1288	1472	1556	1840
	Throw	8.0	10.0	12.0	15.0	18.0	20.0	21.0	23.0	25.0	26.0	29.0	32.0	36.0	39.0
16*16 Ak.990	cfm	396	495	594	693	792	891	990	1089	1188	1287	1386	1584	1782	1980
	Throw	8.0	10.0	12.0	15.0	18.0	20.0	21.0	23.0	25.0	26.0	29.0	32.0	36.0	39.0
20*14 Ak1.07	cfm	428	535	642	749	856	963	1070	1177	1284	1391	1498	1712	1926	2140
	Throw	8.0	11.0	13.0	16.0	19.0	22.0	23.0	25.0	27.0	29.0	31.0	35.0	38.0	41.0
24*12 Ak1.10	cfm	440	550	660	770	880	990	1100	1210	1320	1430	1540	1760	1980	2200
	Throw	9.0	12.0	14.0	17.0	20.0	22.0	24.0	26.0	28.0	30.0	32.0	36.0	39.0	42.0
30*10 Ak1.15	cfm	460	575	690	805	920	1035	1150	1265	1380	1495	1610	1840	2070	2300
	Throw	9.0	12.0	14.0	17.0	20.0	23.0	25.0	27.0	29.0	31.0	33.0	37.0	40.0	43.0
18*18 Ak1.210	cfm	484	605	726	847	968	1089	1210	1331	1452	1573	1684	1936	2178	2420
	Throw	10.0	13.0	15.0	18.0	22.0	25.0	27.0	29.0	31.0	33.0	35.0	39.0	42.0	45.0
30*12 Ak1.380	cfm	552	690	828	966	1104	1242	1380	1518	1656	1794	1932	2208	2484	2760
	Throw	10.0	14.0	17.0	19.0	23.0	26.0	28.0	30.0	32.0	34.0	36.0	40.0	43.0	47.0
20*20 Ak1.53	cfm	612	765	918	1071	1224	1377	1530	1683	1836	1989	2142	2448	2754	3060
	Throw	11.0	14.0	17.0	20.0	24.0	27.0	29.0	32.0	35.0	37.0	39.0	43.0	46.0	50.0
30*18 Ak1.97	cfm	788	985	1182	1379	1576	1773	1970	2167	2364	2561	2758	3152	3546	3940
	Throw	12.0	15.0	18.0	20.0	25.0	27.0	30.0	33.0	37.0	39.0	43.0	47.0	52.0	58.0
24*24 Ak2.16	cfm	864	1080	1296	1512	1728	1944	2160	2376	2592	2808	3024	3456	3888	4320
	Throw	13.0	16.0	20.0	22.0	27.0	29.0	31.0	36.0	40.0	43.0	47.0	51.0	56.0	62.0

401403/401507 Horizontal Return Air Grille Steel

Face Velocit	m/s	1.52	2.03	2.54	3.05	3.56	4.06	4.57	5.08
	FPM	300	400	500	600	700	800	900	1000
6*6 Ak.16	cfm	48	64	80	96	112	128	144	160
	Ps	0.012	0.020	0.028	0.048	0.060	0.076	0.100	0.132
8*8 Ak.29	cfm	87	116	145	174	203	232	261	290
	Ps	0.012	0.020	0.028	0.048	0.060	0.076	0.100	0.132
12*6 Ak.34	cfm	102	136	170	204	238	272	306	340
	Ps	0.012	0.020	0.032	0.048	0.060	0.076	0.100	0.128
14*6 Ak.38	cfm	114	152	190	228	266	304	342	380
	Ps	0.012	0.020	0.032	0.044	0.060	0.076	0.100	0.124
12*8 Ak.46	cfm	138	184	230	276	322	368	414	460
	Ps	0.012	0.020	0.032	0.044	0.060	0.070	0.096	0.118
10*10 Ak.47	cfm	141	188	235	282	329	376	423	470
	Ps	0.012	0.020	0.032	0.044	0.060	0.072	0.096	0.120
14*8 Ak.52	cfm	156	208	260	312	364	416	468	520
	Ps	0.012	0.020	0.032	0.044	0.056	0.072	0.096	0.116
14*10 Ak.65	cfm	195	260	325	390	455	520	585	650
	Ps	0.012	0.020	0.032	0.040	0.056	0.072	0.092	0.112

401403/401507 Horizontal Return Air Grille Steel(continued)

Face Velocit	m/s	1.52	2.03	2.54	3.05	3.56	4.06	4.57	5.08
	FPM	300	400	500	600	700	800	900	1000
12*12/18*8 Ak.68	cfm	204	272	340	408	476	544	612	680
	Ps	0.012	0.020	0.032	0.044	0.056	0.072	0.092	0.112
20*8 Ak.78	cfm	234	312	390	468	546	624	702	780
	Ps	0.012	0.020	0.032	0.040	0.056	0.072	0.092	0.112
18*10/30*6 Ak.85	cfm	255	340	425	510	595	680	765	850
	Ps	0.012	0.020	0.031	0.043	0.059	0.082	0.094	0.118
16*12/24*8 Ak.90	cfm	270	360	450	540	630	720	810	900
	Ps	0.012	0.020	0.032	0.042	0.060	0.080	0.095	0.114
14*14 Ak.92	cfm	276	368	460	552	644	736	828	920
	Ps	0.012	0.020	0.032	0.040	0.056	0.076	0.092	0.112
20*10 Ak.93	cfm	279	372	465	558	651	744	837	930
	Ps	0.012	0.020	0.032	0.040	0.056	0.076	0.092	0.112
20*12/24*10 /30*8 Ak1.14	cfm	342	456	570	684	798	912	1026	1140
	Ps	0.012	0.020	0.032	0.044	0.056	0.080	0.096	0.116
16*16 Ak.1.20	cfm	360	480	600	720	840	960	1080	1200
	Ps	0.012	0.020	0.032	0.044	0.060	0.080	0.096	0.116

DATA SUPPORT

Engineering and Performance Data

401403/401507 Horizontal Return Air Grille Steel(continued)

Face Velocit	m/s	1.52	2.03	2.54	3.05	3.56	4.06	4.57	5.08
	FPM	300	400	500	600	700	800	900	1000
20*14 Ak1.30	cfm	390	520	650	780	910	1040	1170	1300
	Ps	0.012	0.020	0.032	0.044	0.060	0.084	0.096	0.120
24*12 Ak1.30	cfm	408	544	680	816	952	1088	1224	1360
	Ps	0.012	0.020	0.032	0.044	0.056	0.080	0.096	0.116
30*10 Ak1.42	cfm	426	568	710	852	994	1136	1278	1420
	Ps	0.012	0.020	0.032	0.044	0.056	0.080	0.096	0.116
20*16 Ak1.52	cfm	456	608	760	912	1064	1216	1368	1520
	Ps	0.012	0.020	0.032	0.044	0.060	0.084	0.096	0.120
18*18 Ak1.55	cfm	465	620	775	930	1085	1240	1395	1550
	Ps	0.012	0.020	0.032	0.044	0.060	0.084	0.096	0.120
24*14 Ak1.60	cfm	480	640	800	960	1120	1280	1440	1600
	Ps	0.012	0.020	0.032	0.044	0.060	0.084	0.100	0.120
30*12 Ak1.72	cfm	516	688	860	1032	1204	1376	1548	1720
	Ps	0.012	0.020	0.032	0.044	0.060	0.084	0.100	0.120
20*20 Ak1.92	cfm	576	768	960	1152	1344	1536	1728	1920
	Ps	0.012	0.020	0.032	0.044	0.060	0.088	0.100	0.120
30*14 Ak2.02	cfm	606	808	1010	1212	1414	1616	1818	2020
	Ps	0.012	0.020	0.032	0.044	0.060	0.088	0.100	0.120
36*12 Ak2.14	cfm	642	856	1070	1284	1498	1712	1926	2140
	Ps	0.012	0.020	0.034	0.046	0.060	0.098	0.100	0.120
24*20/30*16 Ak2.38	cfm	714	952	1190	1428	1666	1904	2142	2380
	Ps	0.012	0.020	0.032	0.044	0.060	0.088	0.100	0.120
25*20 Ak2.42	cfm	726	968	1210	1452	1684	1936	2178	2420
	Ps	0.012	0.020	0.032	0.044	0.060	0.088	0.100	0.120
36*14 Ak2.44	cfm	732	976	1220	1464	1708	1952	2196	2440
	Ps	0.012	0.020	0.035	0.047	0.061	0.088	0.102	0.123
24*24 Ak2.80	cfm	840	1120	1400	1680	1960	2240	2520	2800
	Ps	0.012	0.020	0.032	0.048	0.060	0.092	0.100	0.124
30*20 Ak2.92	cfm	876	1168	1460	1752	2044	2336	2628	2920
	Ps	0.012	0.020	0.032	0.044	0.060	0.092	0.100	0.120
30*24 Ak3.44	cfm	1032	1376	1720	2064	2408	2752	3096	3440
	Ps	0.011	0.019	0.030	0.043	0.056	0.086	0.096	0.115
30*30 Ak4.3	cfm	1290	1720	2150	2580	3010	3440	3870	4300
	Ps	0.011	0.017	0.027	0.042	0.055	0.084	0.095	0.113

302201 Wall/Ceiling Register Adjustable Curved-Faced Blades

Face Velocit	m/s	1.52	2.03	2.54	3.05	3.56	4.06	4.57	5.08	5.59	6.10
	FPM	300	400	500	600	700	800	900	1000	1100	1200
Pressure Loss		0.008	0.012	0.016	0.024	0.032	0.040	0.052	0.064	0.076	0.092
8*4 Ak.13	cfm	39	52	65	78	91	104	117	130	143	156
	Throw	4.0	6.0	7.0	8.0	9.0	10.0	12.0	13.0	14.0	16.0
6*6 Ak.14	cfm	42	56	70	84	98	112	126	140	154	168
	Throw	4.0	6.0	7.0	8.0	9.0	10.0	12.0	14.0	15.0	16.0
10*4 Ak.15	cfm	45	60	75	90	105	120	135	150	165	180
	Throw	4.0	6.0	7.0	9.0	10.0	11.0	13.0	14.0	16.0	17.0
8*6/12*4 Ak.18	cfm	54	72	90	108	126	144	162	180	198	216
	Throw	4.0	6.0	8.0	10.0	11.0	12.0	14.0	15.0	17.0	18.0

302201 Wall/Ceiling Register Adjustable Curved-Faced Blades(continued)

Face Velocit	m/s	1.52	2.03	2.54	3.05	3.56	4.06	4.57	5.08	5.59	6.10
	FPM	300	400	500	600	700	800	900	1000	1100	1200
Pressure Loss		0.008	0.012	0.016	0.024	0.032	0.040	0.052	0.064	0.076	0.092
14*4 Ak.21	cfm	63	84	105	126	147	168	189	210	231	252
	Throw	5.0	7.0	8.0	10.0	11.0	12.0	14.0	15.0	17.0	19.0
10*6 Ak.22	cfm	66	88	110	132	154	176	198	220	242	264
	Throw	5.0	7.0	9.0	10.0	12.0	14.0	15.0	16.0	18.0	20.0
8*8 Ak0.23	cfm	69	92	115	138	161	184	207	230	253	276
	Throw	5.0	7.0	9.0	10.0	12.0	14.0	15.0	16.0	18.0	21.0
12*6 Ak.25	cfm	75	100	125	150	175	200	225	250	275	300
	Throw	6.0	7.0	9.0	11.0	13.0	15.0	16.0	18.0	20.0	22.0
10*8 Ak.28	cfm	84	112	140	168	196	224	252	280	308	336
	Throw	6.0	8.0	10.0	12.0	13.0	15.0	17.0	19.0	21.0	23.0
14*6 Ak.29	cfm	87	116	145	174	203	232	261	290	319	348
	Throw	6.0	8.0	10.0	12.0	13.0	15.0	17.0	19.0	21.0	23.0
12*8 Ak.32	cfm	96	128	160	192	224	256	288	320	352	384
	Throw	6.0	9.0	11.0	13.0	15.0	17.0	19.0	21.0	23.0	25.0
10*10 Ak.34	cfm	102	136	170	204	238	272	306	340	374	408
	Throw	6.0	9.0	11.0	13.0	15.0	17.0	19.0	21.0	23.0	25.0
14*8 Ak.37	cfm	111	148	185	222	259	296	333	370	407	444
	Throw	7.0	9.0	11.0	13.0	16.0	18.0	20.0	22.0	24.0	26.0
12*12 Ak.47	cfm	141	188	235	282	329	376	423	470	517	564
	Throw	9.0	12.0	14.0	16.0	18.0	20.0	22.0	24.0	26.0	28.0
14*14 Ak.63	cfm	189	252	315	378	441	504	567	630	693	756
	Throw	12.0	15.0	17.0	19.0	21.0	23.0	25.0	27.0	29.0	32.0

302204 Two-Way Adjustable Curved-Blade Register

Face Velocit	m/s	1.52	2.03	2.54	3.05	3.56	4.06	4.57	5.08	5.59	6.10
	FPM	300	400	500	600	700	800	900	1000	1100	1200
Pressure Loss		0.008	0.012	0.016	0.024	0.032	0.040	0.052	0.064	0.076	0.092
10*6 Ak0.22	cfm	66	88	110	132	154	176	198	220	242	264
	Throw	3.5	5.0	6.0	7.0	8.5	10.0	10.5	11.0	13.0	14.0
8*8 Ak0.23	cfm	69	92	115	138	161	184	207	230	253	276
	Throw	3.5	5.0	6.0	7.0	8.5	10.0	10.5	11.0	13.0	15.0
12*6 Ak.25	cfm	75	100	125	150	175	200	225	250	275	300
	Throw	4.0	5.0	6.0	8.0	9.0	10.5	11.0	13.0	14.0	15.0
14*6 Ak.29	cfm	87	116	145	174	203	232	261	290	319	348
	Throw	4.0	6.0	7.0	8.5	9.0	10.5	13.0	14.0	15.0	17.0
12*8 Ak.32	cfm	96	128	160	192	224	256	288	320	352	384
	Throw	4.5	6.0	8.0	9.0	10.5	12.0	13.0	15.0	16.0	18.0
10*10 Ak.34	cfm	102	136	170	204	238	272	306	340	374	408
	Throw	4.5	6.0	8.0	9.0	11.0	12.0	13.0	15.0	16.0	18.0
14*8 Ak.37	cfm	111	148	185	222	259	296	333	370	407	444
	Throw	5.0	6.0	8.0	9.0	11.0	13.0	14.0	15.0	17.0	18.0
12*12 Ak.47	cfm	141	188	235	282	329	376	423	470	517	564
	Throw	6.0	8.5	10.0	11.0	13.0	14.0	15.0	17.0	18.0	20.0

Engineering and Performance Data

302205 Three-Way Adjustable Curved-Blade Register

Face Velocit	m/s	1.52	2.03	2.54	3.05	3.56	4.06	4.57	5.08	5.59	6.10
	FPM	300	400	500	600	700	800	900	1000	1100	1200
Pressure Loss		0.008	0.012	0.016	0.024	0.032	0.040	0.052	0.064	0.076	0.092
8"4 Ak.13	total cfm	39	52	65	78	91	104	117	130	143	156
	cfm L/S	8/12	10/14	12/18	16/21	18/25	20/28	22/30	25/36	26/38	31/41
	ThrowL/S	2.5/3	3/4	4/5	5/6	6/7	6/8	7/8	8/8	8/9	8/10
6"6 Ak.14	total cfm	42	56	70	84	98	112	126	140	154	168
	cfm L/S	9/13	10/15	12/18	16/22	18/25	21/28	22/31	25/36	27/38	31/42
	ThrowL/S	2.5/3	3/4	4/5	5/6	6/7	6/8	7/8	8/8	8/9	8/10
10"4 Ak.15	total cfm	15	60	75	90	105	120	135	150	165	180
	cfm L/S	9/13	11/15	13/19	17/21	18/26	21/28	22/30	26/36	26/39	32/41
	ThrowL/S	2.5/3	3/4	4/5	5/7	6/7	7/8	7/8	8/8	8/10	9/11
10"6 Ak.22	total cfm	66	88	110	132	154	176	198	220	242	264
	cfm L/S	22/19	29/27	37/33	44/38	50/46	58/51	65/59	72/64	79/72	87/79
	ThrowL/S	4/4	5/5	5/6	7/6	7/7	8/9	9/9	10/11	12/12	12/13
8"8 Ak.23	total cfm	69	92	115	138	161	184	207	230	253	276
	cfm L/S	30/18	41/24	51/31	63/36	69/41	78/47	89/55	99/59	109/66	119/72
	ThrowL/S	4/3.5	5/4	6/5	8/6	8/7	10/8	11/9	12/10	14/12	15/13
12"6 Ak.25	total cfm	75	100	125	150	175	200	225	250	275	300
	cfm L/S	21/25	28/34	36/42	42/49	49/59	57/67	63/74	70/83	77/91	84/98
	ThrowL/S	3/3	4/4	5/6	6/7	7/8	8/8.0	9/9	10/11	11/12	11/12
14"6 Ak.14	total cfm	87	116	145	174	203	232	261	290	319	348
	cfm L/S	33/32	44/40	57/61	70/61	80/71	92/81	103/91	116/104	127/113	140/123
	ThrowL/S	4/3.5	4/5	6/7	7/8	9/8	10/9	11/10	11/12	12/13	13/14
12"8 Ak.32	total cfm	96	128	160	192	224	256	288	320	352	384
	cfm L/S	37/35	47/42	59/63	72/64	83/74	95/85	106/94	119/106	131/117	142/126
	ThrowL/S	4/4	5/5	7/7	8/7	9/8	10/9	11/10	12/12	14/13	15/14
10"10 Ak.34	total cfm	102	136	170	204	238	272	306	340	374	408
	cfm L/S	37/35	47/42	59/63	72/64	83/74	95/85	106/94	119/106	131/117	142/126
	ThrowL/S	4/4	5/5	6/7	8/7	9/9	10/11	11/12	13/12	14/15	15/16
14"8 Ak.37	total cfm	111	148	185	222	259	296	333	370	407	444
	cfm L/S	35/38	42/49	53/62	63/74	74/86	84/99	95/111	106/123	116/136	127/148
	ThrowL/S	4/4	4/5	6/6	7/7	8/8	9/9	10/10	11/11	12/12	14/14
12"12 Ak.47	total cfm	141	188	235	282	329	376	423	470	517	564
	cfm L/S	38/42	47/56	58/68	68/79	79/89	89/103	99/115	109/127	119/139	128/152
	ThrowL/S	7/9	9/11	12/12	13/12	14/15	13/14	15/16	16/17	17/18	19/19
14"14 Ak.63	total cfm	189	252	315	378	441	504	567	630	693	756
	cfm L/S	42/56	53/68	70/80	80/92	91/102	101/115	110/127	121/139	132/151	141/164
	ThrowL/S	15/16	17/18	19/18	21/18	19/21	18/22	21/22	22/23	23/24	24/25

DATA SUPPORT

Engineering and Performance Data

302206 Four-Way Adjustable Curved-Blade Register

Face Velocity	m/s	1.52	2.03	2.54	3.05	3.56	4.06	4.57	5.08	5.59	6.10
Face Velocity	FPM	300	400	500	600	700	800	900	1000	1100	1200
Pressure Loss		0.008	0.012	0.016	0.024	0.032	0.040	0.052	0.064	0.076	0.092
6"6 Ak.14	total cfm	42	56	70	84	98	112	126	140	154	168
	cfm L/S	5/13	5/15	6/18	8/22	9/35	11/28	11/31	12/36	14/38	15/42
	Throw L/S	2/3	2/4	3/5	4/6	4/7	4/8	5/8	6/8	6/9	6/10
8"8 Ak.0.23	total cfm	69	92	115	138	161	184	207	230	253	276
	cfm L/S	15/18	20/24	25/31	32/36	35/41	39/47	45/55	50/59	55/66	60/72
	Throw L/S	3/3.5	4/4	4/5	6/6	6/7	7/8	8/9	8/10	10/12	11/13
10"10 Ak.34	total cfm	102	136	170	204	238	272	306	340	374	408
	cfm L/S	18/35	24/42	30/63	36/64	42/74	48/85	53/94	60/106	65/117	71/126
	Throw L/S	3/4	4/5	4/7	6/7	6/9	7/11	8/12	9/12	10/15	11/16
12"12 Ak.47	total cfm	141	188	235	282	329	376	423	470	517	564
	cfm L/S	19/42	23/56	29/68	34/79	40/89	45/103	50/115	55/127	60/139	64/152
	Throw L/S	5/9	6/11	8/12	9/12	10/15	9/14	11/16	11/17	12/18	13/19
14"14 Ak.63	total cfm	189	252	315	378	441	504	567	630	693	756
	cfm L/S	21/56	26/68	35/80	40/92	45/102	50/115	55/127	60/139	66/151	70/164
	Throw L/S	11/16	12/18	13/18	15/18	13/21	12/22	15/22	15/23	16/24	17/25

302207 Aluminum Wall/Ceiling Register Adjustable

Deflection—A

Face Velocity	FPM	300	400	500	600	700	800	900	1000	1100	1200
Pressure Loss		0.008	0.012	0.016	0.024	0.032	0.040	0.052	0.064	0.076	0.092
8"4 Ak.17	cfm	51	68	85	102	119	136	153	170	187	204
	Throw	5.0	7.0	9.0	10.0	13.0	14.0	16.0	17.0	19.0	20.0
6"6 Ak.19	cfm	57	76	95	114	133	152	171	190	209	228
	Throw	6.0	8.0	10.0	12.0	13.0	15.0	17.0	19.0	20.0	22.0
10"4 Ak.21	cfm	63	84	105	126	147	168	189	210	231	252
	Throw	6.0	8.0	10.0	13.0	14.0	15.0	18.0	20.0	21.0	22.0
8"6 /12"4 Ak.26	cfm	78	104	130	156	182	208	234	260	286	312
	Throw	7.0	9.0	10.0	13.0	14.0	17.0	19.0	20.0	23.0	26.0
14"4 Ak.30	cfm	90	120	150	180	210	240	270	300	330	360
	Throw	8.0	10.0	12.0	13.0	16.0	19.0	22.0	23.0	25.0	27.0
10"6 Ak.33	cfm	99	132	165	198	231	264	297	330	363	396
	Throw	8.0	10.0	13.0	14.0	17.0	20.0	22.0	24.0	27.0	28.0
8"8 /16"4 Ak.35	cfm	105	140	175	210	245	280	315	350	385	420
	Throw	8.0	10.0	12.0	15.0	18.0	20.0	23.0	25.0	28.0	30.0
12"6 Ak.38	cfm	114	152	192	228	266	304	342	380	418	456
	Throw	9.0	11.0	14.0	15.0	18.0	22.0	23.0	27.0	29.0	31.0
10"8 /20"4 Ak.43	cfm	129	172	215	258	301	344	387	430	473	516
	Throw	9.0	12.0	13.0	17.0	20.0	23.0	24.0	28.0	31.0	34.0
14"6 Ak.46	cfm	138	184	230	276	322	368	414	460	506	552
	Throw	11.0	13.0	15.0	17.0	20.0	23.0	26.0	29.0	31.0	35.0
12"8 /16"6 /24"4 Ak.46	cfm	159	212	265	318	371	424	477	530	583	636
	Throw	10.0	12.0	15.0	18.0	22.0	23.0	26.0	29.0	32.0	35.0

Deflection—A(continued)

Face Velocity	FPM	300	400	500	600	700	800	900	1000	1100	1200
Pressure Loss		0.008	0.012	0.016	0.024	0.032	0.040	0.052	0.064	0.076	0.092
10"10 Ak.541	cfm	162	216	271	325	379	433	487	541	595	649
	Throw	11.0	13.0	15.0	19.0	22.0	23.0	27.0	31.0	33.0	37.0
18"6 Ak.597	cfm	179	239	299	358	418	478	537	597	657	716
	Throw	11.0	13.0	16.0	20.0	22.0	24.0	28.0	32.0	34.0	37.0
14"8 Ak.60	cfm	180	240	300	360	420	480	540	600	660	720
	Throw	11.0	13.0	16.0	20.0	22.0	25.0	28.0	32.0	35.0	38.0
20"6 Ak.651	cfm	195	260	326	391	456	521	586	651	716	781
	Throw	12.0	14.0	16.0	21.0	23.0	26.0	29.0	32.0	36.0	40.0
16"8 Ak.71	cfm	213	284	355	426	497	568	639	710	781	852
	Throw	12.0	15.0	17.0	22.0	24.0	27.0	31.0	35.0	38.0	42.0
14"10 Ak.778	cfm	233	311	389	467	545	622	700	778	856	934
	Throw	14.0	17.0	19.0	23.0	26.0	29.0	33.0	37.0	40.0	44.0
12"12 /18"8 /24"6 Ak.80	cfm	240	320	400	480	560	640	720	800	880	960
	Throw	14.0	17.0	19.0	23.0	26.0	29.0	33.0	37.0	40.0	44.0
16"10 /20"8 Ak.89	cfm	267	356	445	534	623	712	801	890	979	1068
	Throw	16.0	19.0	21.0	25.0	29.0	32.0	36.0	40.0	43.0	47.0
28"6 Ak.93	cfm	279	372	465	558	651	744	837	930	1023	1116
	Throw	18.0	20.0	22.0	27.0	32.0	35.0	40.0	44.0	48.0	52.0
18"10 /30"6 Ak.999	cfm	300	400	500	599	699	799	899	999	1099	1199
	Throw	19.0	21.0	24.0	29.0	34.0	38.0	42.0	47.0	51.0	56.0
24"8 Ak1.07	cfm	321	428	535	642	749	856	963	1070	1177	1284
	Throw	19.0	21.0	25.0	30.0	35.0	38.0	42.0	47.0	52.0	57.0

Engineering and Performance Data

Deflection—A(continued)

Face Velocity	FPM	300	400	500	600	700	800	900	1000	1100	1200
Pressure Loss		0.008	0.012	0.016	0.024	0.032	0.040	0.052	0.064	0.076	0.092
14"14 Ak1.09	cfm	321	428	535	642	749	856	963	1070	1177	1284
	Throw	19.0	21.0	25.0	30.0	35.0	38.0	42.0	47.0	52.0	57.0
18"12 Ak1.21	cfm	363	484	605	726	847	968	1089	1210	1331	1452
	Throw	21.0	24.0	28.0	34.0	40.0	45.0	50.0	55.0	60.0	66.0
28"8 Ak1.26	cfm	378	504	630	756	882	1008	1134	1260	1386	1512
	Throw	24.0	27.0	30.0	36.0	42.0	47.0	53.0	60.0	64.0	71.0
30"8 Ak1.35	cfm	405	540	675	810	945	1080	1215	1350	1485	1620
	Throw	25.0	29.0	32.0	39.0	46.0	51.0	57.0	64.0	69.0	76.0
16"16 Ak1.44	cfm	432	576	720	864	1008	1152	1296	1440	1584	1728
	Throw	26.0	30.0	36.0	45.0	49.0	55.0	65.0	71.0	77.0	82.0
24"12 Ak1.62	cfm	486	648	810	972	1134	1296	1458	1620	1782	1944
	Throw	30.0	35.0	40.0	47.0	55.0	58.0	64.0	70.0	75.0	84.0
18"18 Ak1.834	cfm	550	734	917	1100	1284	1467	1651	1834	2017	2201
	Throw	33.0	40.0	45.0	54.0	64.0	71.0	80.0	89.0	96.0	106.0
24"14 Ak1.91	cfm	573	764	955	1146	1337	1528	1719	1910	2101	2292
	Throw	36.0	41.0	45.0	55.0	65.0	72.0	81.0	91.0	98.0	108.0
20"20 Ak2.28	cfm	684	912	1140	1368	1596	1824	2052	2280	2508	2736
	Throw	44.0	49.0	54.0	64.0	74.0	82.0	92.0	102.0	110.0	120.0

Deflection—C(continued)

Face Velocity	FPM	300	400	500	600	700	800	900	1000	1100	1200
Pressure Loss		0.008	0.012	0.016	0.024	0.032	0.040	0.052	0.064	0.076	0.092
12"8/16"6 /24.4 Ak.477	cfm	143	191	239	286	334	382	429	477	525	572
	Throw	8.0	9.0	11.0	13.0	15.0	16.0	18.0	20.0	22.0	25.0
10"10 Ak.487	cfm	146	195	244	292	341	390	438	487	536	584
	Throw	8.0	9.0	11.0	13.0	15.0	16.0	19.0	22.0	23.0	26.0
18"6 Ak.537	cfm	161	215	269	322	376	430	483	537	591	644
	Throw	8.0	9.0	11.0	14.0	15.0	17.0	20.0	22.0	24.0	26.0
14"8 Ak.54	cfm	120	160	200	240	280	320	360	400	440	480
	Throw	8.0	9.0	11.0	14.0	15.0	18.0	20.0	22.0	25.0	27.0
20"6 Ak.586	cfm	176	234	293	352	410	469	527	586	645	703
	Throw	8.0	10.0	11.0	15.0	16.0	18.0	20.0	22.0	25.0	28.0
16"8 Ak.639	cfm	192	256	320	383	447	511	575	639	703	767
	Throw	8.0	11.0	12.0	15.0	17.0	19.0	22.0	25.0	27.0	29.0
14"10 Ak.70	cfm	210	280	350	420	490	560	630	700	770	840
	Throw	10.0	12.0	13.0	16.0	18.0	20.0	23.0	26.0	28.0	31.0
12"12/18"8 /24"6 Ak.72	cfm	216	288	360	432	504	576	648	720	792	864
	Throw	10.0	12.0	13.0	16.0	19.0	21.0	24.0	27.0	29.0	32.0
16"10/20"8 Ak.80	cfm	240	320	400	480	560	640	720	800	880	960
	Throw	11.0	13.0	15.0	18.0	20.0	22.0	25.0	28.0	30.0	33.0
28"6 Ak.837	cfm	251	335	419	502	586	670	753	837	921	1004
	Throw	13.0	14.0	15.0	19.0	22.0	25.0	28.0	31.0	34.0	36.0
18"10/30"6 Ak.899	cfm	270	360	450	539	629	719	809	899	989	1079
	Throw	13.0	15.0	17.0	20.0	24.0	27.0	29.0	33.0	36.0	39.0
24"8 Ak.963	cfm	289	385	482	578	674	770	867	963	1059	1156
	Throw	13.0	15.0	18.0	21.0	25.0	27.0	29.0	33.0	36.0	40.0
14"14 Ak.981	cfm	294	392	491	589	687	785	883	981	1079	1177
	Throw	13.0	15.0	18.0	21.0	25.0	27.0	30.0	34.0	37.0	41.0
18"12 Ak1.089	cfm	327	436	545	653	762	871	980	1089	1198	1307
	Throw	15.0	17.0	20.0	24.0	28.0	32.0	35.0	39.0	42.0	46.0
28"8 Ak1.134	cfm	340	454	567	680	794	907	1021	1134	1247	1361
	Throw	17.0	19.0	21.0	25.0	29.0	33.0	37.0	42.0	45.0	50.0
30"8 Ak1.215	cfm	365	486	608	729	851	972	1094	1215	1337	1458
	Throw	18.0	20.0	22.0	27.0	32.0	36.0	40.0	45.0	48.0	53.0
16"16 Ak1.296	cfm	389	518	648	778	907	1037	1166	1296	1426	1555
	Throw	18.0	21.0	25.0	32.0	34.0	39.0	46.0	50.0	54.0	57.0
24"12 Ak1.458	cfm	437	583	729	875	1021	1166	1312	1458	1604	1750
	Throw	21.0	25.0	28.0	33.0	39.0	41.0	45.0	49.0	53.0	59.0
18"18 Ak1.651	cfm	495	660	826	991	1156	1321	1486	1651	1816	1981
	Throw	23.0	28.0	32.0	38.0	45.0	50.0	56.0	62.0	67.0	74.0
24"14 Ak1.719	cfm	516	688	860	1031	1203	1375	1547	1719	1891	2063
	Throw	25.0	29.0	32.0	39.0	46.0	50.0	56.0	62.0	67.0	74.0
20"20 Ak2.28	cfm	616	821	1026	1231	1436	1642	1847	2052	2257	2462
	Throw	31.0	34.0	38.0	45.0	52.0	57.0	64.0	71.0	77.0	84.0

Deflection—C

Face Velocity	FPM	300	400	500	600	700	800	900	1000	1100	1200
Pressure Loss		0.008	0.012	0.016	0.024	0.032	0.040	0.052	0.064	0.076	0.092
8"4 Ak.153	cfm	46	61	77	92	107	122	138	153	168	184
	Throw	3.5	5.0	6.0	7.0	9.0	10.0	11.0	12.0	13.0	14.0
6"6 Ak.171	cfm	51	68	86	103	120	137	154	171	188	205
	Throw	4.0	6.0	7.0	8.0	9.0	11.0	12.0	13.0	14.0	15.0
10"4 Ak.189	cfm	57	76	95	113	132	151	170	189	208	227
	Throw	4.0	6.0	7.0	9.0	10.0	11.0	13.0	14.0	15.0	16.0
8"6 /12"4 Ak.234	cfm	70	94	117	140	164	187	211	234	257	281
	Throw	5.0	6.0	7.0	9.0	10.0	12.0	13.0	14.0	16.0	18.0
14"4 Ak.27	cfm	81	108	135	162	189	216	243	270	297	324
	Throw	6.0	7.0	8.0	9.0	11.0	13.0	15.0	16.0	17.0	19.0
10"6 Ak.297	cfm	89	119	149	178	208	238	267	297	327	345
	Throw	6.0	7.0	9.0	10.0	12.0	14.0	15.0	17.0	19.0	20.0
8"8 /16"4 Ak.315	cfm	95	126	158	189	221	252	284	315	347	378
	Throw	6.0	7.0	9.0	11.0	13.0	14.0	16.0	18.0	20.0	21.0
12"6 Ak.342	cfm	103	137	171	205	239	274	308	342	376	410
	Throw	6.0	8.0	10.0	11.0	13.0	15.0	16.0	19.0	20.0	22.0
10"8 /20"4 Ak.387	cfm	116	155	194	232	271	310	348	387	426	464
	Throw	6.0	8.0	10.0	12.0	14.0	16.0	17.0	20.0	22.0	24.0
14"6 Ak.414	cfm	124	166	207	248	290	331	373	414	455	497
	Throw	8.0	9.0	11.0	12.0	14.0	16.0	18.0	20.0	22.0	25.0

DATA SUPPORT

Engineering and Performance Data

Deflection — E

Face Velocity	FPM	300	400	500	600	700	800	900	1000	1100	1200
Pressure Loss		0.008	0.012	0.016	0.024	0.032	0.040	0.052	0.064	0.076	0.092
8"4 Ak.139	cfm	42	56	70	83	97	111	125	139	153	167
	Throw	3.0	4.0	5.0	6.0	8.0	8.0	10.0	10.0	11.0	12.0
6"6 Ak.156	cfm	47	62	78	94	109	125	140	156	172	187
	Throw	4.0	5.0	6.0	7.0	8.0	9.0	10.0	11.0	12.0	13.0
10"4 Ak.172	cfm	52	69	86	103	120	138	155	172	189	206
	Throw	4.0	5.0	6.0	8.0	8.0	9.0	11.0	12.0	13.0	13.0
8"6 /12"4 Ak.213	cfm	64	85	107	128	149	170	192	213	234	256
	Throw	4.0	5.0	6.0	8.0	8.0	10.0	11.0	12.0	14.0	16.0
14"4 Ak.246	cfm	74	98	123	148	172	197	221	246	271	295
	Throw	5.0	6.0	7.0	8.0	10.0	11.0	13.0	14.0	15.0	16.0
14"4 Ak.246	cfm	74	98	123	148	172	197	221	246	271	295
	Throw	5.0	6.0	7.0	8.0	10.0	11.0	13.0	14.0	15.0	16.0
10"6 Ak.271	cfm	81	108	136	163	190	217	244	271	298	325
	Throw	5.0	6.0	7.0	8.0	10.0	12.0	13.0	14.0	16.0	17.0
8"8 /16"4 Ak.287	cfm	86	115	144	172	201	230	258	287	316	344
	Throw	5.0	6.0	7.0	9.0	11.0	12.0	14.0	15.0	17.0	18.0
12"6 Ak.312	cfm	94	125	156	187	218	250	281	312	343	374
	Throw	5.0	7.0	8.0	9.0	11.0	13.0	14.0	16.0	17.0	19.0
10"8 /20"4 Ak.353	cfm	106	141	177	212	247	282	318	353	388	424
	Throw	5.0	7.0	8.0	10.0	12.0	14.0	14.0	17.0	19.0	20.0
14"6 Ak.377	cfm	113	151	189	226	264	302	339	377	415	452
	Throw	7.0	8.0	9.0	10.0	12.0	14.0	16.0	17.0	19.0	21.0
12"8 /16"6 /24"4 Ak.435	cfm	131	174	218	261	305	348	392	435	479	522
	Throw	7.0	8.0	9.0	11.0	13.0	14.0	16.0	17.0	19.0	21.0
10"10 Ak.444	cfm	133	178	222	266	311	355	400	444	488	533
	Throw	7.0	8.0	9.0	11.0	13.0	14.0	16.0	19.0	20.0	22.0
18"6 Ak.49	cfm	147	196	245	294	343	392	441	490	539	588
	Throw	7.0	8.0	10.0	12.0	13.0	14.0	17.0	19.0	20.0	22.0
14"8 Ak.492	cfm	148	197	246	295	344	394	443	492	541	590
	Throw	7.0	8.0	10.0	12.0	13.0	14.0	17.0	19.0	20.0	22.0
20"6 Ak.534	cfm	160	214	267	320	374	427	481	534	587	641
	Throw	7.0	8.0	10.0	13.0	14.0	16.0	17.0	19.0	22.0	24.0
16"8 Ak.582	cfm	175	233	291	349	407	466	524	582	640	698
	Throw	7.0	9.0	10.0	13.0	14.0	16.0	19.0	21.0	23.0	25.0
14"10 Ak.638	cfm	191	255	319	383	447	510	574	638	702	766
	Throw	8.0	10.0	11.0	14.0	16.0	17.0	20.0	22.0	24.0	26.0
12"12 /18"8 /24"6 Ak.656	cfm	197	262	328	394	459	525	590	656	722	787
	Throw	8.0	10.0	11.0	14.0	16.0	18.0	20.0	23.0	25.0	27.0
16"10 /20"8 Ak.73	cfm	219	292	365	438	511	584	657	730	803	876
	Throw	10.0	11.0	13.0	15.0	17.0	19.0	22.0	24.0	26.0	28.0
28"6 Ak.763	cfm	229	305	382	458	534	610	687	763	839	916
	Throw	11.0	12.0	13.0	16.0	19.0	21.0	24.0	26.0	29.0	31.0

Deflection — E(continued)

Face Velocity	FPM	300	400	500	600	700	800	900	1000	1100	1200
Pressure Loss		0.008	0.012	0.016	0.024	0.032	0.040	0.052	0.064	0.076	0.092
18"10 /30"6 Ak.819	cfm	246	328	410	491	573	655	737	819	901	983
	Throw	11.0	13.0	14.0	17.0	20.0	23.0	25.0	28.0	31.0	34.0
24"8 Ak.877	cfm	263	351	439	526	614	702	789	877	965	1052
	Throw	11.0	13.0	15.0	18.0	21.0	23.0	25.0	28.0	31.0	34.0
14"14 Ak.894	cfm	268	358	447	536	626	715	805	894	983	1073
	Throw	11.0	13.0	15.0	18.0	21.0	23.0	26.0	29.0	32.0	35.0
18"12 Ak.992	cfm	298	397	496	595	694	794	893	992	1091	1190
	Throw	13.0	14.0	17.0	20.0	24.0	27.0	30.0	33.0	36.0	40.0
28"8 Ak1.033	cfm	310	413	517	620	723	826	930	1033	1136	1240
	Throw	14.0	16.0	18.0	22.0	25.0	28.0	32.0	36.0	38.0	43.0
30"8 Ak1.107	cfm	332	443	554	664	775	886	996	1107	1218	1328
	Throw	15.0	17.0	19.0	23.0	28.0	31.0	34.0	38.0	41.0	46.0
16"16 Ak1.181	cfm	354	472	591	709	827	945	1063	1181	1299	1417
	Throw	16.0	18.0	22.0	27.0	29.0	33.0	39.0	43.0	46.0	49.0
24"12 Ak1.328	cfm	398	531	664	797	930	1062	1195	1328	1461	1594
	Throw	18.0	21.0	24.0	28.0	33.0	35.0	38.0	42.0	45.0	50.0
18"18 Ak1.504	cfm	451	602	752	902	1053	1203	1354	1504	1654	1805
	Throw	20.0	24.0	27.0	32.0	38.0	43.0	48.0	53.0	58.0	64.0
24"14 Ak1.566	cfm	470	626	783	940	1096	1253	1409	1566	1723	1879
	Throw	22.0	25.0	27.0	33.0	39.0	43.0	49.0	55.0	59.0	65.0
20"20 Ak1.87	cfm	561	748	935	1122	1309	1496	1683	1870	2057	2244
	Throw	26.0	29.0	32.0	38.0	44.0	49.0	55.0	61.0	66.0	72.0

Deflection — G

Face Velocity	FPM	300	400	500	600	700	800	900	1000	1100	1200
Pressure Loss		0.008	0.012	0.016	0.024	0.032	0.040	0.052	0.064	0.076	0.092
8"4 Ak.128	cfm	38	51	64	77	90	102	115	128	141	154
	Throw	2.0	3.0	4.0	4.0	5.0	6.0	6.0	7.0	8.0	8.0
6"6 Ak.143	cfm	43	57	72	86	100	114	129	143	157	172
	Throw	2.0	3.0	4.0	5.0	5.0	6.0	7.0	8.0	8.0	9.0
10"4 Ak.158	cfm	63	84	105	126	147	168	189	210	231	252
	Throw	2.0	3.0	4.0	5.0	6.0	6.0	7.0	8.0	8.0	9.0
8"6 /12"4 Ak.195	cfm	59	78	98	117	137	156	176	195	215	234
	Throw	3.0	4.0	4.0	5.0	6.0	7.0	8.0	8.0	9.0	10.0
14"4 Ak.225	cfm	68	90	113	135	158	180	203	225	248	270
	Throw	3.0	4.0	5.0	5.0	6.0	8.0	9.0	9.0	10.0	11.0
10"6 Ak.248	cfm	74	99	124	149	174	198	223	248	273	298
	Throw	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0	11.0	11.0
8"8 /16"4 Ak.263	cfm	79	105	132	158	184	210	237	263	289	316
	Throw	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0	11.0	12.0
12"6 Ak.285	cfm	86	114	143	171	200	228	257	285	314	342
	Throw	4.0	4.0	5.0	6.0	7.0	9.0	9.0	11.0	12.0	12.0
10"8 /20"4 Ak.323	cfm	97	129	162	194	226	258	291	323	355	388
	Throw	4.0	5.0	5.0	7.0	8.0	9.0	10.0	11.0	12.0	14.0

Engineering and Performance Data

Deflection — G(continued)

Face Velocity	FPM	300	400	500	600	700	800	900	1000	1100	1200
Pressure Loss		0.008	0.012	0.016	0.024	0.032	0.040	0.052	0.064	0.076	0.092
14"6 Ak.345	cfm	104	138	173	207	242	276	311	345	380	414
	Throw	4.0	5.0	6.0	7.0	8.0	9.0	10.0	12.0	12.0	14.0
12"8/16"6 /24"4 Ak.398	cfm	119	159	199	239	279	318	358	398	438	478
	Throw	4.0	5.0	6.0	7.0	9.0	9.0	10.0	12.0	13.0	14.0
10"10 Ak.406	cfm	122	162	203	244	284	325	365	406	447	487
	Throw	4.0	5.0	6.0	8.0	9.0	9.0	11.0	12.0	13.0	15.0
18"6 Ak.448	cfm	134	179	224	269	315	358	403	448	493	538
	Throw	4.0	5.0	6.0	8.0	9.0	10.0	11.0	13.0	14.0	15.0
14"8 Ak.45	cfm	135	180	225	270	315	360	405	450	495	540
	Throw	4.0	5.0	6.0	8.0	9.0	10.0	11.0	13.0	14.0	15.0
20"6 Ak.586	cfm	146	195	244	293	342	390	439	488	537	586
	Throw	5.0	6.0	6.0	8.0	9.0	10.0	12.0	13.0	14.0	16.0
16"8 Ak.639	cfm	16.	213	267	320	373	426	480	533	586	640
	Throw	5.0	6.0	7.0	9.0	10.0	11.0	12.0	14.0	15.0	17.0
14"10 Ak.70	cfm	175	234	292	350	409	467	526	584	642	701
	Throw	6.0	7.0	8.0	9.0	10.0	12.0	13.0	15.0	16.0	18.0
12"12/18"8 /24"6 Ak.72	cfm	180	240	300	360	420	480	540	600	660	720
	Throw	6.0	7.0	8.0	9.0	11.0	12.0	14.0	15.0	16.0	18.0
16"10 /20"8 Ak.80	cfm	200	267	334	401	468	534	601	668	735	802
	Throw	6.0	8.0	8.0	10.0	12.0	13.0	14.0	16.0	17.0	19.0
28"6 Ak.837	cfm	209	279	349	419	489	558	628	698	768	838
	Throw	7.0	8.0	9.0	11.0	13.0	14.0	16.0	18.0	19.0	21.0
18"10/30"6 Ak.899	cfm	225	300	375	449	524	599	674	749	824	899
	Throw	8.0	8.0	10.0	12.0	14.0	15.0	17.0	19.0	20.0	22.0
24"8 Ak.877	cfm	241	321	402	482	562	642	723	803	883	964
	Throw	8.0	8.0	10.0	12.0	14.0	15.0	17.0	19.0	21.0	23.0
14"14 Ak.894	cfm	245	327	409	491	573	654	736	818	900	982
	Throw	8.0	8.0	10.0	12.0	14.0	16.0	17.0	19.0	21.0	23.0
18"12 Ak.992	cfm	272	363	454	545	636	726	817	908	999	1090
	Throw	8.0	10.0	11.0	14.0	16.0	18.0	20.0	22.0	24.0	26.0
28"8 Ak1.033	cfm	284	378	473	567	662	756	851	945	1040	1134
	Throw	10.0	11.0	12.0	14.0	17.0	19.0	21.0	24.0	26.0	28.0
30"8 Ak1.107	cfm	304	405	507	608	709	810	912	1013	1114	1216
	Throw	10.0	12.0	13.0	16.0	18.0	20.0	23.0	26.0	28.0	30.0
16"16 Ak1.181	cfm	324	432	540	648	756	864	972	1080	1188	1296
	Throw	10.0	12.0	14.0	18.0	20.0	22.0	26.0	28.0	31.0	33.0
24"12 Ak1.328	cfm	365	486	608	729	851	972	1094	1215	1337	1458
	Throw	12.0	14.0	16.0	19.0	22.0	23.0	26.0	28.0	30.0	34.0
18"18 Ak1.504	cfm	413	550	688	826	963	1101	1238	1376	1514	1651
	Throw	13.0	16.0	18.0	22.0	26.0	28.0	32.0	36.0	38.0	42.0
24"14 Ak1.566	cfm	430	573	717	860	1003	1146	1290	1433	1576	1720
	Throw	14.0	16.0	18.0	22.0	26.0	29.0	32.0	36.0	39.0	43.0
20"20 Ak1.87	cfm	513	684	855	1026	1197	1368	1539	1710	1881	2052
	Throw	18.0	20.0	22.0	26.0	30.0	33.0	37.0	41.0	44.0	48.0

303201 and 302601&302603 Return Air Grille 302702 Return Air Filter Grille

Face Velocity	m/s	1.52	2.03	2.54	3.05
	FPM	300	400	500	600
6"4 Ak.12	cfm	36	48	60	72
	Ps	0.020	0.035	0.054	0.079
8"4 Ak.13	cfm	39	52	65	78
	Ps	0.019	0.035	0.054	0.079
6"6 Ak.16	cfm	48	64	80	96
	Ps	0.019	0.035	0.054	0.079
10"4 Ak.192	cfm	58	77	96	115
	Ps	0.020	0.032	0.052	0.076
8"6/12"4 Ak.23	cfm	69	92	115	138
	Ps	0.020	0.036	0.052	0.080
14"4 Ak.26	cfm	78	104	130	156
	Ps	0.020	0.032	0.052	0.078
10"6 Ak.28	cfm	84	112	140	168
	Ps	0.020	0.032	0.052	0.076
8"8 Ak.30	cfm	90	120	150	180
	Ps	0.020	0.032	0.052	0.078
12"6/18"4 Ak0.34	cfm	102	136	170	204
	Ps	0.020	0.032	0.052	0.077
8"10/10"8 Ak.38	cfm	114	152	190	228
	Ps	0.020	0.032	0.052	0.076
14"6 Ak.39	cfm	117	156	195	234
	Ps	0.020	0.032	0.052	0.076
8"12/12"8 16"6/24"4 Ak.45	cfm	135	180	225	270
	Ps	0.020	0.032	0.052	0.076
10"10 Ak.48	cfm	144	192	240	288
	Ps	0.020	0.032	0.052	0.072
18"6 Ak.50	cfm	150	200	250	300
	Ps	0.020	0.032	0.052	0.072
8"14/14"8 Ak.52	cfm	156	208	260	312
	Ps	0.020	0.032	0.052	0.076
12"10/20"6 30"4 Ak.56	cfm	168	224	280	336
	Ps	0.020	0.032	0.052	0.072
16"8 Ak.62	cfm	186	248		372
	Ps	0.020	0.032	0.052	0.076
10"14/14"10 Ak.64	cfm	192	256	320	384
	Ps	0.020	0.032	0.052	0.072
12"12/18"8 24"6 Ak.67	cfm	201	268	335	402
	Ps	0.020	0.032	0.052	0.072
10"16/16"10 20"8 Ak.74	cfm	222	296	370	444
	Ps	0.020	0.032	0.052	0.072
12"14/14"12 Ak.78	cfm	234	312	390	468
	Ps	0.020	0.032	0.052	0.073
18"10/30"6 Ak.83	cfm	249	332	415	498
	Ps	0.020	0.032	0.052	0.073

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303201 and 302601&302603 Return Air Grille 302702 Return Air Filter Grille(continued)

Face Velocity	m/s	1.52	2.03	2.54	3.05
	FPM	300	400	500	600
12*16/16*12 /24*8 Ak.88	cfm	264	352	440	528
	Ps	0.020	0.032	0.053	0.074
14*14 Ak0.90	cfm	270	360	450	540
	Ps	0.020	0.032	0.052	0.072
10*20/20*10 Ak0.90	cfm	276	368	460	552
	Ps	0.020	0.032	0.052	0.072
12*18/18*12 /36*6 Ak.99	cfm	297	396	495	594
	Ps	0.020	0.032	0.052	0.072
14*16/16*14 Ak1.03	cfm	309	412	515	618
	Ps	0.020	0.032	0.052	0.071
12*20/10*24 /20*12 /24*10/30*8 Ak1.10	cfm	330	440	550	660
	Ps	0.020	0.032	0.052	0.072
14*18/18*14 Ak1.15	cfm	345	460	575	690
	Ps	0.019	0.032	0.052	0.070
16*16 Ak1.17	cfm	351	468	585	702
	Ps	0.020	0.032	0.052	0.072
26*10 Ak1.19	cfm	357	476	595	714
	Ps	0.016	0.032	0.052	0.072
14*20/20*14 Ak1.28	cfm	384	512	640	768
	Ps	0.020	0.032	0.052	0.072
12*24/18*16 /24*12/36*8 Ak1.30	cfm	390	520	650	780
	Ps	0.020	0.032	0.052	0.072
25*12/30*10 Ak1.37	cfm	411	548	685	822
	Ps	0.016	0.032	0.052	0.072
16*12/20*16 Ak1.45	cfm	435	580	725	870
	Ps	0.020	0.032	0.052	0.072
18*18 Ak1.47	cfm	441	588	735	882
	Ps	0.020	0.032	0.052	0.072
14*24/24*14 Ak1.53	cfm	459	612	765	918
	Ps	0.020	0.032	0.052	0.072
14*25/25*14 Ak1.58	cfm	474	632	790	948
	Ps	0.020	0.032	0.052	0.072
12*30/18*20 /20*18 /30*12/36*10 Ak1.65	cfm	495	660	825	990
	Ps	0.020	0.032	0.052	0.070
26*14 Ak1.66	cfm	498	664	830	996
	Ps	0.016	0.032	0.052	0.072
16*24/24*16 Ak1.73	cfm	519	692	865	1038
	Ps	0.016	0.032	0.052	0.072
16*25/20*20 /25*16 Ak1.81	cfm	543	724	905	1086
	Ps	0.016	0.032	0.052	0.072
14*30/30*14 Ak1.90	cfm	570	760	950	1140
	Ps	0.016	0.032	0.048	0.072

303201 and 302601&302603 Return Air Grille 302702 Return Air Filter Grille(continued)

Face Velocity	m/s	1.52	2.03	2.54	3.05
	FPM	300	400	500	600
13*36/18*24 /24*18/36*12 Ak1.95	cfm	585	780	975	1170
	Ps	0.016	0.031	0.048	0.071
18*25/25*18 Ak2.05	cfm	615	820	1024	1230
	Ps	0.016	0.032	0.052	0.072
16*30/20*24 /24*20/36*16 Ak2.18	cfm	654	872	1090	1308
	Ps	0.016	0.032	0.048	0.068
22*22 Ak2.2	cfm	660	880	1100	1320
	Ps	0.016	0.032	0.048	0.068
20*25/25*20 Ak2.25	cfm	675	900	1125	1350
	Ps	0.016	0.032	0.048	0.068
36*14 Ak2.3	cfm	690	920	1150	1380
	Ps	0.016	0.032	0.048	0.068
16*32 Ak2.33	cfm	699	932	1165	1398
	Ps	0.020	0.032	0.052	0.072
18*30/30*18 Ak2.54	cfm	762	1016	1270	1524
	Ps	0.016	0.030	0.048	0.068
16*36/24*24 /36*16 Ak2.59	cfm	777	1036	1295	1554
	Ps	0.016	0.032	0.048	0.068
20*30/30*20 Ak2.70	cfm	810	1080	1350	1620
	Ps	0.016	0.032	0.048	0.064
25*25 Ak2.81	cfm	843	1124	1405	1686
	Ps	0.016	0.032	0.048	0.068
18*36/36*18 Ak2.94	cfm	882	1176	1470	1764
	Ps	0.016	0.030	0.046	0.066
20*36/24*30 /30*24/36*20 Ak3.22	cfm	966	1288	1610	1932
	Ps	0.016	0.031	0.046	0.062
25*30/30*25 Ak3.40	cfm	1020	1360	1700	2040
	Ps	0.017	0.031	0.048	0.064
20*40/25*32 /32*25/40*20 Ak3.6	cfm	1080	1440	1800	2160
	Ps	0.012	0.030	0.045	0.058
30*30 Ak4.02	cfm	1206	1608	2010	2412
	Ps	0.015	0.030	0.045	0.060
36*36 Ak5.85	cfm	1755	2340	2925	3510
	Ps	0.015	0.030	0.042	0.058

Engineering and Performance Data

302602 & 302703 Return Air (Filter) Grille

Face Velocity	m/s	1.52	2.03	2.54	3.05
	FPM	300	400	500	600
6"4 Ak.109	cfm	33	44	55	65
	Ps	0.010	0.018	0.029	0.042
8"4 Ak.147	cfm	44	59	74	88
	Ps	0.010	0.018	0.029	0.041
6"6 Ak.169	cfm	51	68	85	101
	Ps	0.010	0.018	0.029	0.042
10"4 Ak.19	cfm	57	76	95	114
	Ps	0.012	0.020	0.028	0.040
8"6/12"4 Ak.225	cfm	68	90	113	135
	Ps	0.010	0.018	0.029	0.041
14"4 Ak.263	cfm	79	105	132	158
	Ps	0.012	0.020	0.028	0.044
10"6 Ak.29	cfm	87	116	145	174
	Ps	0.012	0.020	0.028	0.040
8"8/16"4 Ak.30	cfm	90	120	150	180
	Ps	0.012	0.018	0.028	0.040
12"6 Ak.0.34	cfm	102	136	170	204
	Ps	0.012	0.020	0.028	0.040
10"8 Ak.379	cfm	114	152	190	227
	Ps	0.012	0.020	0.028	0.040
6"14/14"6 Ak.397	cfm	119	159	199	238
	Ps	0.010	0.018	0.029	0.041
12"8/16"6 /24"4 Ak.452	cfm	136	181	226	271
	Ps	0.012	0.020	0.028	0.040
10"10 Ak.491	cfm	155	206	258	309
	Ps	0.012	0.016	0.028	0.040
18"6 Ak.515	cfm	155	206	258	309
	Ps	0.012	0.016	0.028	0.040
8"14/14"8 Ak.531	cfm	159	212	226	271
	Ps	0.012	0.020	0.028	0.040
12"10/20"6 30"4 Ak.57	cfm	171	228	285	342
	Ps	0.012	0.020	0.028	0.040
16"8 Ak.617	cfm	171	228	285	342
	Ps	0.012	0.020	0.028	0.040
10"14/14"10 Ak.669	cfm	201	268	335	401
	Ps	0.011	0.019	0.029	0.041
12"12/18"8 24"6 Ak.687	cfm	206	275	344	412
	Ps	0.012	0.020	0.028	0.044
16"10/20"8 Ak.764	cfm	229	306	382	458
	Ps	0.012	0.020	0.028	0.044
12"14/14"12 Ak.805	cfm	242	322	403	483
	Ps	0.012	0.020	0.028	0.043

302602 & 302703 Return Air (Filter) Grille(continued)

Face Velocity	m/s	1.52	2.03	2.54	3.05
	FPM	300	400	500	600
18"10/30"6 Ak.857	cfm	257	343	429	514
	Ps	0.012	0.016	0.028	0.040
12"16/16"12 /24"8 Ak.921	cfm	281	375	469	562
	Ps	0.012	0.018	0.029	0.041
14"14 Ak.0.937	cfm	281	375	469	562
	Ps	0.012	0.018	0.028	0.044
10"20/20"10 Ak.0.96	cfm	288	384	480	576
	Ps	0.010	0.018	0.029	0.041
18"12/36"6 Ak.1.04	cfm	312	416	520	624
	Ps	0.012	0.016	0.028	0.044
14"16/16"14 Ak.1.07	cfm	321	428	535	642
	Ps	0.012	0.016	0.028	0.040
12"20/10"24 /20"12 /24"10/30"8 Ak.1.5	cfm	345	460	575	690
	Ps	0.010	0.018	0.029	0.041
14"20/20"14 Ak.1.15	cfm	402	536	670	804
	Ps	0.012	0.016	0.028	0.044
12"24/18"16 /24"12/36"8 Ak.1.38	cfm	414	552	690	828
	Ps	0.012	0.020	0.028	0.042
30"10 Ak.1.42	cfm	426	568	710	852
	Ps	0.011	0.020	0.028	0.040
20"16 Ak.1.543	cfm	463	617	772	926
	Ps	0.012	0.016	0.028	0.040
18"18 Ak.1.562	cfm	469	625	781	937
	Ps	0.012	0.020	0.028	0.040
14"24/24"14 Ak.1.63	cfm	489	652	815	978
	Ps	0.012	0.016	0.028	0.044
14"25 Ak.1.715	cfm	515	686	858	1029
	Ps	0.012	0.016	0.028	0.044
20"18/30"12 Ak.1.73	cfm	519	692	865	1038
	Ps	0.012	0.018	0.028	0.042
16"24/24"16 Ak.1.84	cfm	580	773	966	1159
	Ps	0.012	0.016	0.028	0.040
16"25/20"20 Ak.1.932	cfm	606	808	1010	1212
	Ps	0.012	0.016	0.028	0.044
14"30/30"14 Ak.2.02	cfm	624	832	1040	1248
	Ps	0.012	0.020	0.028	0.040
18"24/24"18 /36"12 Ak.2.08	cfm	695	927	1159	1391
	Ps	0.012	0.020	0.028	0.040
20"24/24"18 /30"16 Ak.2.02	cfm	725	966	1208	1450
	Ps	0.012	0.020	0.028	0.044
20"25/25"20 Ak.2.416	cfm	780	1040	1300	1560
	Ps	0.010	0.019	0.028	0.040

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Engineering and Performance Data

302602 & 302703 Return Air (Filter) Grille(continued)

Face Velocity	m/s	1.52	2.03	2.54	3.05
	FPM	300	400	500	600
30"18 Ak2.60	cfm	780	1040	1300	1560
	Ps	0.010	0.019	0.028	0.040
24"24 Ak2.78	cfm	834	1112	1390	1668
	Ps	0.012	0.019	0.028	0.040
20"30/30"20 Ak2.98	cfm	867	1156	1445	1734
	Ps	0.012	0.020	0.028	0.044
24"30/30"24 Ak3.49	cfm	1047	1396	1746	2094
	Ps	0.012	0.019	0.028	0.040
30"30 Ak4.37	cfm	1311	1748	2185	2622
	Ps	0.010	0.019	0.028	0.040
36"36 Ak6.26	cfm	1878	2504	3130	3756
	Ps	0.010	0.019	0.029	0.042

401405 & 401513 Aluminum Horizontal(Filter) Grille(continued)

Face Velocity	m/s	2.03	2.54	3.05	3.56	4.06	4.57	5.08
	FPM	400	500	600	700	800	900	1000
16"12 /24"8 Ak.90	cfm	360	450	540	630	720	810	900
	Ps	0.021	0.032	0.046	0.062	0.078	0.100	0.122
14"14 Ak.92	cfm	368	460	552	644	736	828	920
	Ps	0.020	0.032	0.046	0.062	0.079	0.102	0.125
24"10 Ak1.14	cfm	456	570	684	798	912	1026	1140
	Ps	0.020	0.032	0.046	0.062	0.078	0.100	0.125
16"16 Ak1.22	cfm	488	610	732	854	976	1098	1220
	Ps	0.021	0.032	0.045	0.061	0.078	0.102	0.125
14"20 /20"14 Ak1.34	cfm	536	670	804	938	1072	1206	1340
	Ps	0.022	0.035	0.051	0.067	0.084	0.112	0.136
12"24 /16"18 /36"8 /24"12 Ak1.38	cfm	552	690	828	966	1104	1242	1380
	Ps	0.015	0.022	0.032	0.043	0.055	0.070	0.085
16"20 /20"16 Ak1.54	cfm	616	770	924	1078	1232	1386	1540
	Ps	0.019	0.029	0.041	0.055	0.070	0.092	0.113
18"18 Ak1.56	cfm	624	780	936	1092	1248	1404	1560
	Ps	0.020	0.032	0.046	0.062	0.079	0.102	0.124
14"24 /24"14 Ak1.62	cfm	648	810	972	1134	1296	1458	1620
	Ps	0.020	0.032	0.046	0.061	0.076	0.102	0.124
14"25 Ak1.69	cfm	676	845	1014	1183	1352	1521	1690
	Ps	0.020	0.032	0.045	0.061	0.076	0.102	0.124
12"30 /20"18 /30"12 Ak1.74	cfm	696	870	1044	1218	1392	1566	1740
	Ps	0.013	0.020	0.029	0.039	0.049	0.063	0.077
24"16 Ak1.86	cfm	744	930	1116	1302	1488	1674	1860
	Ps	0.020	0.032	0.046	0.063	0.081	0.102	0.126
20"20 Ak1.94	cfm	776	970	1164	1358	1552	1746	1940
	Ps	0.021	0.032	0.046	0.062	0.079	0.102	0.124
14"30 /30"14 Ak2.04	cfm	816	1020	1224	1428	1632	1836	2040
	Ps	0.018	0.029	0.041	0.055	0.068	0.092	0.112
18"24 /24"18 Ak2.10	cfm	840	1050	1260	1470	1680	1890	2100
	Ps	0.020	0.030	0.045	0.062	0.078	0.102	0.124
20"24 /24"20 /30"16 Ak2.34	cfm	936	1170	1404	1638	1872	2106	2340
	Ps	0.020	0.032	0.046	0.062	0.079	0.102	0.124
20"25 /25"20 Ak2.44	cfm	976	1220	1464	1708	1952	2196	2440
	Ps	0.021	0.032	0.045	0.062	0.079	0.101	0.124

401405 & 401513 Aluminum Horizontal(Filter) Grille

Face Velocity	m/s	2.03	2.54	3.05	3.56	4.06	4.57	5.08
	FPM	400	500	600	700	800	900	1000
6"6 Ak.12	cfm	48	60	72	84	96	108	120
	Ps	0.036	0.056	0.081	0.113	0.148	0.186	0.230
10"6 Ak.24	cfm	96	120	144	168	192	216	240
	Ps	0.032	0.050	0.071	0.098	0.126	0.162	0.200
8"8 Ak.26	cfm	104	130	156	182	208	234	260
	Ps	0.031	0.050	0.071	0.096	0.126	0.161	0.198
12"6 Ak.30	cfm	120	150	180	210	240	270	300
	Ps	0.031	0.049	0.070	0.098	0.128	0.161	0.199
14"6 Ak.36	cfm	144	180	216	252	288	324	360
	Ps	0.027	0.045	0.065	0.085	0.114	0.142	0.175
12"8 /16"6 Ak.42	cfm	168	210	252	294	336	378	420
	Ps	0.033	0.050	0.072	0.097	0.123	0.157	0.192
10"10 Ak.44	cfm	176	220	264	308	352	396	440
	Ps	0.022	0.034	0.048	0.067	0.086	0.110	0.136
14"8 Ak.50	cfm	200	250	300	350	400	450	500
	Ps	0.019	0.032	0.047	0.061	0.082	0.102	0.126
12"12 Ak.66	cfm	264	330	396	462	528	594	660
	Ps	0.021	0.032	0.046	0.062	0.078	0.100	0.122
16"12 /24"8 Ak.90	cfm	360	450	540	630	720	810	900
	Ps	0.021	0.032	0.046	0.062	0.082	0.102	0.126
12"12 Ak.66	cfm	264	330	396	462	528	594	660
	Ps	0.021	0.032	0.046	0.062	0.078	0.100	0.122

Engineering and Performance Data

401405 & 401513 Aluminum Horizontal(Filter) Grille(continued)

Face Velocity	m/s	2.03	2.54	3.05	3.56	4.06	4.57	5.08
	FPM	400	500	600	700	800	900	1000
18"30 /30"18 Ak2.64	cfm	1056	1320	1584	1848	2112	2376	2640
	Ps	0.021	0.032	0.045	0.062	0.079	0.101	0.124
36"18 Ak3.18	cfm	264	330	396	462	528	594	660
	Ps	0.021	0.032	0.046	0.062	0.078	0.100	0.122
20"28 Ak2.74	cfm	1096	1370	1644	1918	2192	2466	2740
	Ps	0.020	0.032	0.045	0.062	0.078	0.102	0.124
24"24 Ak2.82	cfm	1128	1410	1692	1974	2256	2538	2820
	Ps	0.021	0.032	0.048	0.064	0.086	0.106	0.128
20"30 /30"20 Ak2.94	cfm	1176	1470	1764	2058	2352	2646	2940
	Ps	0.020	0.032	0.045	0.062	0.078	0.101	0.124
36"18 Ak3.18	cfm	1272	1590	1908	2226	2544	2862	3180
	Ps	0.022	0.034	0.050	0.068	0.094	0.120	0.134
24"30 Ak3.54	cfm	1416	1770	2124	2478	2832	3186	3540
	Ps	0.022	0.034	0.050	0.067	0.090	0.111	0.134
36"24 Ak4.26	cfm	1704	2130	2556	2982	3408	3834	4260
	Ps	0.026	0.039	0.056	0.078	0.104	0.130	0.155

401405T T-Bar Aluminum Horizontal Return Grille

Face Velocity	m/s	1.52	2.03	2.54	3.05	3.56
	FPM	300	400	500	600	700
22"22 Ak2.60	cfm	780	1040	1300	1560	1820
	-Ps	0.015	0.030	0.042	0.062	0.082
46"22 Ak5.45	cfm	1635	2180	2725	3270	3815
	-Ps	0.015	0.030	0.040	0.059	0.080

401513T T-Bar Aluminum Horizontal Return(Filter) Grille

Average Face Velocity	m/s	1.52	2.03	2.54	3.05	3.56
	FPM	300	400	500	600	700
20"20 Ak2.10	cfm	630	840	1050	1260	1470
	-Ps	0.14	0.023	0.038	0.056	0.075

402209 T-Bar Lanced Return Filter Grille

Average Face Velocity	m/s	1.52	2.03	2.54	3.05
	FPM	300	400	500	600
20"20 Ak2.45	cfm	735	980	1225	1470
	-Ps	0.017	0.030	0.046	0.066
w/12" collar Ak2.24	cfm	672	896	1120	1344
	-Ps	0.082	0.144	0.225	0.323
w/14" collar Ak2.28	cfm	684	912	1140	1368
	-Ps	0.059	0.103	0.162	0.235
w/16" collar Ak2.34	cfm	702	936	1170	1404
	-Ps	0.038	0.067	0.104	0.152

402208 T-Bar Lanced Return Filter Grille

6" Diameter Inlet Ak.730	cfm	100	150	200	225	250	275	300
	Static Pressure	-0.057	-0.127	-0.226	-0.287	-0.354	-0.428	-0.509
8" Diameter Inlet Ak.795	cfm	150	200	250	300	400	500	550
	Static Pressure	-0.040	-0.072	-0.112	-0.161	-0.287	-0.448	-0.542
10" Diameter Inlet Ak.880	cfm	300	400	500	600	700	800	850
	Static Pressure	-0.066	-0.117	-0.183	-0.264	-0.359	-0.469	-0.530
12" Diameter Inlet Ak.980	cfm	400	500	600	700	800	1000	1200
	Static Pressure	-0.057	-0.088	-0.127	-0.173	-0.226	-0.354	-0.509

402409 T-Bar Perforated Face Only

Neck Velocity	m/s	1.01	1.52	2.03	2.54	3.05	3.56	4.07
	FPM	200	300	400	500	600	700	800
6" Diameter	cfm	40	60	80	100	120	140	160
	-Ps	0.003	0.007	0.012	0.019	0.027	0.034	0.044
8" Diameter	cfm	70	105	140	175	210	245	280
	-Ps	0.004	0.010	0.017	0.026	0.037	0.051	0.068
10" Diameter	cfm	108	162	216	270	324	378	432
	-Ps	0.005	0.011	0.020	0.030	0.043	0.058	0.076
12" Diameter	cfm	156	234	312	390	468	546	624
	-Ps	0.006	0.013	0.023	0.035	0.050	0.069	0.090
14" Diameter	cfm	214	321	428	535	642	749	856
	-Ps	0.006	0.013	0.023	0.035	0.050	0.069	0.090
24"24"	cfm	735	1100	1470	1835	2200	2570	2935
	-Ps	0.008	0.018	0.032	0.050	0.070	0.095	0.130

402306 T-Bar Stamped Aluminum 4-way Perforated Diffuser with Insulated

Neck Velocity	ms	1.27	1.78	2.29	2.79	3.30	3.81	4.32	5.08	6.10
	FPM	250	350	450	550	650	750	850	1000	1200
6" Diameter An.20 Ak.430	cfm	50	70	90	110	130	150	170	200	240
	Ps	0.004	0.009	0.014	0.021	0.029	0.036	0.046	0.065	0.094
	Throw	3.0	3.5	4.5	6.0	7.5	8.0	9.0	11.0	12.0
8" Diameter An.35 Ak.530	cfm	88	123	158	193	228	263	298	350	420
	Ps	0.006	0.012	0.019	0.029	0.040	0.054	0.070	0.098	0.140
	Throw	4.0	5.0	6.5	8.0	9.5	11.0	13.0	15.0	17.0
10" Diameter An.55 Ak.620	cfm	138	193	248	303	358	413	468	550	660
	Ps	0.009	0.017	0.028	0.043	0.069	0.078	0.102	0.140	0.205
	Throw	4.0	6.0	8.0	10.0	12.0	13.0	15.0	18.0	19.0
12" Diameter An.78 Ak.700	cfm	195	273	351	429	507	585	663	780	936
	Ps	0.012	0.024	0.040	0.059	0.082	0.110	0.142	0.195	0.275
	Throw	5.0	7.5	10.0	11.5	14.0	16.0	18.0	19.0	20.0
14" Diameter An.10 Ak.750	cfm	268	375	482	589	696	803	910	1070	1284
	Ps	0.015	0.031	0.050	0.075	0.105	0.137	0.177	0.245	0.350
	Throw	6.0	9.0	11.0	14.0	17.0	19.0	20.0	22.0	24.0

DATA SUPPORT

Engineering and Performance Data

402211 T-Bar Perforated Supply Diffuser with R6 Insulated Back

Neck Velocity	m/s	1.52	2.03	2.54	3.05	3.56	4.06	4.57	5.08	5.59
	FPM	300	400	500	600	700	800	900	1000	1100
6" An.20	cfm	60	80	100	120	140	160	180	200	220
	Ps	0.008	0.011	0.017	0.024	0.032	0.042	0.054	0.066	0.080
	Throw	1.0	2.0	3.0	3.0	4.0	4.0	5.0	5.0	6.0
8" An.35	cfm	105	140	175	210	245	280	315	350	385
	Ps	0.008	0.011	0.017	0.024	0.034	0.043	0.054	0.068	0.082
	Throw	2.0	3.0	4.0	4.0	5.0	6.0	7.0	8.0	8.5
10" An.54	cfm	162	216	270	324	378	432	486	540	594
	Ps	0.008	0.012	0.017	0.024	0.032	0.043	0.056	0.068	0.082
	Throw	2.0	3.0	4.0	5.0	5.0	6.0	7.0	8.0	9.0
12" An.78	cfm	234	312	390	468	546	624	702	782	858
	Ps	0.009	0.016	0.026	0.037	0.050	0.065	0.080	0.100	0.125
	Throw	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0	11.0
14" An.107	cfm	321	428	535	642	749	856	963	1070	1177
	Ps	0.009	0.016	0.026	0.037	0.050	0.065	0.083	0.125	0.150
	Throw	3.0	5.0	6.0	7.0	8.0	9.0	10.0	11.0	12.0

402213 T-Bar Perforated Supply Curved Blade 6" — 1-way

Neck Velocity	m/s	1.52	2.03	2.54	3.05	3.56	4.06	5.08	6.10
	FPM	300	400	500	600	700	800	1000	1200
6" An.20	cfm	60	80	100	120	140	160	200	240
	Ps	0.059	0.080	0.100	0.151	0.202	0.258	0.400	0.581
	Throw	25-40-50	35-50-60	40-60-70	45-70-85	55-80-95	65-95-115	80-120-145	95-140-170
8" An.35	cfm	105	140	175	210	245	280	350	420
	Ps	0.080	0.110	0.160	0.240	0.320	0.420	0.650	0.930
	Throw	25-40-50	35-50-60	40-60-70	45-70-85	55-80-95	65-95-115	80-120-145	95-140-170
10" An.55	cfm	162	216	270	324	378	432	486	540
	Ps	0.008	0.012	0.017	0.024	0.032	0.043	0.056	0.068
	Throw	25-40-50	35-50-60	40-60-70	45-70-85	55-80-95	65-95-115	80-120-145	95-140-170
12" An.78	cfm	234	312	390	468	546	624	702	782
	Ps	0.009	0.016	0.026	0.037	0.050	0.065	0.080	0.100
	Throw	25-40-50	35-50-60	40-60-70	45-70-85	55-80-95	65-95-115	80-120-145	95-140-170
14" An.108	cfm	321	428	535	642	749	856	963	1070
	Ps	0.009	0.016	0.026	0.037	0.050	0.065	0.083	0.125
	Throw	25-40-50	35-50-60	40-60-70	45-70-85	55-80-95	65-95-115	80-120-145	95-140-170

402213 T-Bar Perforated Supply Curved Blade 6" — 2-way

Neck Velocity	m/s	1.52	2.03	2.54	3.05	3.56	4.06	5.08	6.10
	FPM	300	400	500	600	700	800	1000	1200
6" An.20 two-Way	cfm	60	80	100	120	140	160	200	240
	Ps	0.050	0.070	0.090	0.130	0.171	0.220	0.338	0.500
	Throw	20-30-35	25-35-45	35-50-60	40-55-65	45-65-80	50-75-90	65-95-115	70-115-135
8" An.35 two-Way	cfm	105	140	175	210	245	280	350	420
	Ps	0.040	0.054	0.082	0.120	0.165	0.215	0.330	0.480
	Throw	30-45-55	35-55-65	45-70-85	55-85-100	65-95-115	75-110-130	95-140-170	110-165-200
10" An.55 two-Way	cfm	165	220	275	330	385	440	550	660
	Ps	0.060	0.080	0.130	0.180	0.250	0.310	0.510	0.730
	Throw	45-65-75	55-85-100	70-105-125	85-125-150	95-145-175	110-165-200	140-210-250	165-250-300
12" An.78 two-Way	cfm	234	312	390	468	546	624	780	936
	Ps	0.050	0.070	0.110	0.150	0.210	0.270	0.430	0.600
	Throw	45-65-75	55-85-100	70-105-125	85-125-150	100-150-180	115-170-205	145-215-260	170-255-305
14" An.108 two-Way	cfm	324	432	540	648	756	864	1080	1296
	Ps	0.050	0.070	0.100	0.150	0.200	0.260	0.410	0.570
	Throw	35-55-65	45-70-85	60-90-110	70-105-125	85-125-150	95-140-170	115-175-210	140-210-250

402213 T-Bar Perforated Supply Curved Blade 6" — 3-way

Neck Velocity	m/s	1.52	2.03	2.54	3.05	3.56	4.06	5.08	6.10
	FPM	300	400	500	600	700	800	1000	1200
6" An.20 three-Way	cfm	60	80	100	120	140	160	200	240
	Ps	0.020	0.030	0.040	0.059	0.080	0.102	0.150	0.230
	Throw	25-35-45	30-45-55	35-55-65	45-65-80	50-75-90	55-85-105	75-110-130	85-13-155
8" An.35 three-Way	cfm	105	140	175	210	245	280	350	420
	Ps	0.020	0.030	0.040	0.060	0.080	0.100	0.160	0.220
	Throw	30-40-50	40-55-65	45-70-85	55-80-95	65-95-115	75-110-135	90-135-16	110-165-200
10" An.55 three-Way	cfm	165	220	275	330	385	440	550	660
	Ps	0.030	0.040	0.060	0.090	0.120	0.150	0.240	0.340
	Throw	45-65-80	55-85-105	70-105-125	85-125-150	95-145-175	115-170-205	140-210-250	170-250-300

Engineering and Performance Data

402213 T-Bar Perforated Supply Curved Blade 6" — 3-way(continued)

Neck Velocity	m/s	1.52	2.03	2.54	3.05	3.56	4.06	5.08	6.10
	FPM	300	400	500	600	700	800	1000	1200
6" An.20 three-Way	cfm	60	80	100	120	140	160	200	240
	Ps	0.020	0.030	0.040	0.059	0.080	0.102	0.150	0.230
	Throw	25-35-45	30-45-55	35-55-65	45-65-80	50-75-90	55-85-105	75-110-130	85-13-155
8" An.35 three-Way	cfm	105	140	175	210	245	280	350	420
	Ps	0.020	0.030	0.040	0.060	0.080	0.100	0.160	0.220
	Throw	30-40-50	40-55-65	45-70-85	55-80-95	65-95-115	75-110-135	90-135-16	110-165-200
10" An.55 three-Way	cfm	165	220	275	330	385	440	550	660
	Ps	0.030	0.040	0.060	0.090	0.120	0.150	0.240	0.340
	Throw	45-65-80	55-85-105	70-105-125	85-125-150	95-145-175	115-170-205	140-210-250	170-250-300
12" An.78 three-Way	cfm	234	312	390	468	546	624	780	936
	Ps	0.020	0.030	0.050	0.070	0.100	0.130	0.200	0.290
	Throw	45-65-80	55-85-100	70-105-125	85-125-150	100-145-175	110-165-200	135-205-245	165-245-295
14" An1.08 three-Way	cfm	324	432	540	648	756	864	1080	1296
	Ps	0.020	0.030	0.050	0.070	0.100	0.130	0.200	0.280
	Throw	40-50-70	55-80-95	60-90-110	80-120-145	95-140-170	105-160-195	135-200-240	155-235-280

402213 T-Bar Perforated Supply Curved Blade 6" — 3-way

Neck Velocity	m/s	1.52	2.03	2.54	3.05	3.56	4.06	5.08	6.10
	FPM	300	400	500	600	700	800	1000	1200
6" An.20 four-Way	cfm	60	80	100	120	140	160	200	240
	Ps	0.010	0.010	0.020	0.030	0.040	0.050	0.080	0.120
	Throw	15-20-25	15-25-30	20-30-40	25-35-45	30-45-55	35-50-60	40-60-70	50-75-90
8" An.35 four-Way	cfm	105	140	175	210	245	280	350	420
	Ps	0.010	0.010	0.020	0.030	0.040	0.060	0.090	0.120
	Throw	15-25-30	20-30-40	25-40-50	35-50-60	40-55-70	45-65-80	55-80-100	65-95-115
10" An.55 four-Way	cfm	165	220	275	330	385	440	550	660
	Ps	0.010	0.020	0.030	0.040	0.060	0.070	0.110	0.160
	Throw	30-40-50	35-55-65	45-65-80	55-80-100	60-90-110	70-105-125	90-130-155	105-155-185
12" An.78 four-Way	cfm	234	312	390	468	546	624	780	936
	Ps	0.010	0.020	0.030	0.040	0.060	0.080	0.120	0.170
	Throw	25-35-40	30-45-55	35-55-65	45-70-85	55-80-95	60-70-110	75-115-140	90-135-160
14" An1.08 four-Way	cfm	324	432	540	648	756	864	1080	1296
	Ps	0.010	0.020	0.030	0.050	0.060	0.080	0.130	0.180
	Throw	20-30-35	25-40-50	35-50-60	40-60-70	45-70-85	55-80-100	65-100-120	75-115-140

402213 T-Bar Perforated Supply Curved Blade 6" — 3-way(continued)

Neck Velocity	m/s	1.52	2.03	2.54	3.05	3.56	4.06	5.08	6.10
	FPM	300	400	500	600	700	800	1000	1200
14" An1.08 four-Way	cfm	324	432	540	648	756	864	1080	1296
	Ps	0.010	0.020	0.030	0.050	0.060	0.080	0.130	0.180
	Throw	20-30-35	25-40-50	35-50-60	40-60-70	45-70-85	55-80-100	65-100-120	75-115-140

402213 T-Bar Perforated Supply Curved Blade 6" — 4-way

Neck Velocity	m/s	1.52	2.03	2.54	3.05	3.56	4.06	5.08	6.10
	FPM	300	400	500	600	700	800	1000	1200
6" An.20 four-Way	cfm	60	80	100	120	140	160	200	240
	Ps	0.010	0.010	0.020	0.030	0.040	0.050	0.080	0.120
	Throw	15-20-25	15-25-30	20-30-40	25-35-45	30-45-55	35-50-60	40-60-70	50-75-90
8" An.35 four-Way	cfm	105	140	175	210	245	280	350	420
	Ps	0.010	0.010	0.020	0.030	0.040	0.060	0.090	0.120
	Throw	15-25-30	20-30-40	25-40-50	35-50-60	40-55-70	45-65-80	55-80-100	65-95-115
10" An.55 four-Way	cfm	165	220	275	330	385	440	550	660
	Ps	0.010	0.020	0.030	0.040	0.060	0.070	0.110	0.160
	Throw	30-40-50	35-55-65	45-65-80	55-80-100	60-90-110	70-105-125	90-130-155	105-155-185
12" An.78 four-Way	cfm	234	312	390	468	546	624	780	936
	Ps	0.010	0.020	0.030	0.040	0.060	0.080	0.120	0.170
	Throw	25-35-40	30-45-55	35-55-65	45-70-85	55-80-95	60-70-110	75-115-140	90-135-160
14" An1.08 four-Way	cfm	324	432	540	648	756	864	1080	1296
	Ps	0.010	0.020	0.030	0.050	0.060	0.080	0.130	0.180
	Throw	20-30-35	25-40-50	35-50-60	40-60-70	45-70-85	55-80-100	65-100-120	75-115-140

402214 T-Bar Perforated Return 6"

Neck Velocity	m/s	1.01	1.52	2.03	2.54	3.05	3.56	4.06
	FPM	200	300	400	500	600	700	800
-Ps		0.010	0.020	0.030	0.050	0.070	0.100	0.120
6" Diameter	cfm	40	60	80	100	120	140	160
8" Diameter	cfm	70	105	140	175	210	245	280
10" Diameter	cfm	108	162	216	270	324	378	432
12" Diameter	cfm	156	234	312	390	468	546	624
14" Diameter	cfm	214	321	428	535	642	749	856

DATA SUPPORT

Engineering and Performance Data

402602&402603 Steel Fix

Face Velocity	m/s	2.03	2.54	3.05	3.56	4.06	4.57	5.08	6.10	7.11	8.13
	FPM	400	500	600	700	800	900	1000	1200	1400	1600
6" An.20 Ak0.76 (fully retracted) Ak0.80 (fully extended)	cfm	80	100	120	140	160	180	200	240	280	320
	Ps (fully retracted)	0.024	0.040	0.056	0.072	0.100	0.116	0.144	0.220	0.296	0.400
	Ps (fully extended)	0.008	0.016	0.024	0.032	0.048	0.060	0.076	0.116	0.156	0.208
	Throw (fully retracted)	2.0	3.0	3.0	4.0	5.0	6.0	6.0	8.0	10.0	12.0
	Throw (fully extended)	2.0	3.0	4.0	4.0	5.0	6.0	7.0	9.0	11.0	13.0
8" An.35 Ak0.88 (fully retracted) Ak0.94 (fully extended)	cfm	140	172	210	245	280	315	350	420	490	560
	Ps (fully retracted)	0.028	0.044	0.064	0.088	0.120	0.152	0.188	0.272	0.396	0.500
	Ps (fully extended)	0.016	0.024	0.036	0.048	0.072	0.092	0.108	0.160	0.232	0.320
	Throw (fully retracted)	4.0	5.0	6.0	7.0	8.0	9.0	10.0	12.0	14.0	16.0
	Throw (fully extended)	4.0	5.0	6.0	8.0	9.0	10.0	12.0	14.0	17.0	20.0
10" An.54 Ak1.16 (fully retracted) Ak1.22 (fully extended)	cfm	216	270	324	378	432	486	540	648	756	864
	Ps (fully retracted)	0.044	0.076	0.096	0.128	0.172	0.224	0.260	0.368	0.500	0.640
	Ps (fully extended)	0.028	0.044	0.060	0.084	0.112	0.136	0.168	0.224	0.284	0.460
	Throw (fully retracted)	6.0	7.0	9.0	10.0	12.0	13.0	15.0	17.0	20.0	23.0
	Throw (fully extended)	6.0	8.0	9.0	11.0	13.0	15.0	17.0	21.0	25.0	29.0
12" An.0.79 Ak1.61 (fully retracted) Ak1.67 (fully extended)	cfm	312	390	468	546	624	702	780	936	1092	1248
	Ps (fully retracted)	0.056	0.084	0.124	0.168	0.220	0.280	0.336	0.476	0.648	0.808
	Ps (fully extended)	0.040	0.060	0.088	0.112	0.136	0.176	0.212	0.308	0.416	0.528
	Throw (fully retracted)	8.0	9.0	11.0	12.0	14.0	15.0	18.0	21.0	24.0	27.0
	Throw (fully extended)	9.0	11.0	12.0	14.0	16.0	18.0	21.0	25.0	27.0	30.0
14" An1.07 Ak2.03 (fully retracted) Ak2.09 (fully extended)	cfm	428	535	642	749	856	963	1070	1284	1498	1712
	Ps (fully retracted)	0.080	0.128	0.172	0.228	0.276	0.340	0.464	0.644	0.812	1.004
	Ps (fully extended)	0.064	0.084	0.116	0.136	0.180	0.212	0.300	0.408	0.524	0.696
	Throw (fully retracted)	8.0	9.0	12.0	13.0	15.0	16.0	18.0	22.0	25.0	28.0
	Throw (fully extended)	10.0	11.0	13.0	15.0	17.0	19.0	22.0	26.0	29.0	32.0

402411R6&402411 T-Bar Perforatde Return Filter Grille

Neck Velocity	m/s	1.52	2.03	2.54	3.05
	FPM	300	400	500	600
6"Diameter	cfm	300	400	500	600
	Ps	0.148	0.276	0.410	0.622
8"Diameter	cfm	70	504	630	756
	Ps	0.134	0.252	0.362	0.573
10"Diameter	cfm	474	632	790	948
	Ps	0.116	0.210	0.304	0.476
12"Diameter	cfm	696	928	1160	1392
	Ps	0.098	0.170	0.265	0.380
14"Diameter	cfm	777	1036	1295	1554
	Ps	0.076	0.125	0.200	0.283
24*24 Ak2.76	cfm	828	1104	1380	1656
	Ps	0.028	0.050	0.078	0.113

Engineering and Performance Data

402308C T-Bar Steel Shallow Back Perforatde Supply

Neck Velocity	m/s	1.52	2.03	2.54	3.05	3.56	4.06	4.57	5.08	6.10	7.11
	FPM	300	400	500	600	700	800	900	1000	1200	1400
6" Diameter Ak0.20	cfm	60	80	100	120	140	160	180	200	240	280
	Toai pressure	0.005	0.008	0.013	0.025	0.025	0.032	0.041	0.050	0.077	0.098
	short horizontai Throw	2-1-1	2-1-1	3-1-1	3-2-1	4-2-1	4-2-1	5-2-2	5-3-2	6-3-2	7-4-2
	Long horizontai Throw	3-1-1	4-2-1	5-2-2	6-3-2	7-3-2	8-4-3	9-4-3	10-5-3	12-6-4	14-7-5
8" Diameter Ak0.35	cfm	105	140	175	210	245	280	315	350	420	490
	Toai pressure	0.009	0.015	0.024	0.034	0.046	0.061	0.077	0.095	0.136	0.185
	short horizontai Throw	3-1-1	4-2-1	5-2-2	6-4-3	7-3-2	8-4-3	9-4-2	10-5-3	12-6-4	14-7-5
	Long horizontai Throw	5-3-2	7-4-2	9-5-3	11-5-4	13-6-4	15-7-5	16-8-5	18-9-6	22-11-7	25-13-8
10" Diameter Ak0.58	cfm	174	232	290	348	406	464	522	580	696	812
	Toai pressure	0.013	0.023	0.036	0.052	0.071	0.092	0.117	0.144	0.208	0.283
	short horizontai Throw	5-2-2	6-3-2	8-4-3	10-5-3	11-6-4	13-6-4	14-7-5	16-8-5	19-10-6	23-11-8
	Long horizontai Throw	9-5-3	12-6-4	15-8-5	18-9-6	21-11-7	24-12-8	27-14-9	30-15-10	36-18-12	42-21-14
12" Diameter Ak0.81	cfm	243	324	405	486	567	648	729	810	972	1134
	Toai pressure	0.17	0.030	0.047	0.068	0.093	0.121	0.153	0.189	0.273	0.371
	short horizontai Throw	7-4-2	10-5-3	12-6-4	15-7-5	17-9-6	20-10-7	22-11-7	25-12-2	30-15-10	35-17-12
	Long horizontai Throw	14-7-5	19-9-6	23-12-8	28-14-9	33-16-11	37-19-12	42-21-14	47-23-16	56-28-19	65-33-22
14" Diameter Ak1.10	cfm	330	440	550	660	770	880	990	1100	1320	1540
	Toai pressure	0.02	0.036	0.057	0.081	0.111	0.145	0.183	0.226	0.326	0.443
	short horizontai Throw	11-6-4	15-7-5	18-9-6	22-11-7	26-13-3	29-15-10	33-17-11	37-18-12	44-22-15	52-26-17
	Long horizontai Throw	21-10-7	28-14-9	34-17-11	41-21-14	48-24-16	55-28-18	62-31-21	69-34-23	83-41-28	97-48-32

402214 T-Bar Perforated Return 6"

Neck Velocity	m/s	1.52	2.03	2.54	3.05	3.56	4.06	4.57	5.08	6.10
	FPM	300	400	500	600	700	800	900	1000	1200
6" Diameter AK0.20	cfm	60	80	100	120	140	160	180	200	240
	Ps	0.007	0.014	0.022	0.030	0.040	0.050	0.065	0.079	0.115
	1 way Throw	4.0	5.0	7.0	8.0	9.5	11.0	12.0	13.0	16.0
	2-3 way Throw	3.5	5.0	6.0	7.0	8.5	10.0	11.0	12.0	14.0
	4 way Throw	2.5	3.0	4.0	5.0	6.0	7.0	7.5	8.5	10.0
8" Diameter AK0.35	cfm	105	140	175	210	245	280	315	350	420
	Ps	0.011	0.022	0.035	0.047	0.064	0.079	0.103	0.125	0.182
	1 way Throw	6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0	23.0
	2-3 way Throw	5.0	7.0	8.0	10.0	12.0	13.0	15.0	17.0	20.0
10" Diameter AK0.58	cfm	174	232	290	348	406	464	522	580	696
	Ps	0.015	0.031	0.049	0.066	0.090	0.111	0.144	0.175	0.255
	1 way Throw	8.0	11.0	14.0	16.0	19.0	23.0	26.0	28.0	31.0
	2-3 way Throw	7.5	10.0	12.5	15.0	17.0	20.0	23.0	25.0	28.0
12" Diameter AK0.81	cfm	243	324	405	486	567	648	729	810	972
	Ps	0.17	0.030	0.047	0.068	0.093	0.121	0.153	0.189	0.273
	1 way Throw	10.0	13.0	16.5	20.0	23.0	26.0	28.0	31.0	35.0
	2-3 way Throw	8.0	11.0	14.0	17.0	20.0	22.0	25.0	27.0	30.0
14" Diameter AK1.10	cfm	330	440	550	660	770	880	990	1100	1320
	Ps	0.022	0.039	0.061	0.088	0.121	0.157	0.199	0.246	0.355
	1 way Throw	11.0	15.0	19.0	23.0	25.0	28.0	32.0	36.0	40.0
	2-3 way Throw	10.0	14.0	18.0	21.0	23.0	27.0	30.0	32.0	36.0
14" Diameter AK1.10	4 way Throw	7.0	10.0	12.0	14.0	17.0	19.0	21.0	24.0	28.0

DATA SUPPORT

Engineering and Performance Data

402408 FDWI T-Bar Steel Perforatde Supply Diffuser Fixed Deflector Insulated

Neck Velocity	m/s	1.52	2.03	2.54	3.05	3.56	4.06	4.57	5.08	5.59
	FPM	300	400	500	600	700	800	900	1000	1100
6" Diameter AK0.20	cfm	60	80	100	120	140	160	180	200	220
	Ps	0.008	0.011	0.017	0.024	0.032	0.042	0.054	0.066	0.080
	Throw	1.0	2.0	3.0	3.0	4.0	4.0	5.0	5.0	6.0
8" Diameter AK0.35	cfm	105	140	175	210	245	280	315	350	385
	Ps	0.008	0.011	0.017	0.024	0.034	0.043	0.054	0.068	0.083
	Throw	2.0	3.0	4.0	4.0	5.0	6.0	7.0	8.0	8.5
10" Diameter AK0.58	cfm	174	232	290	348	406	464	522	580	638
	Ps	0.008	0.012	0.017	0.024	0.034	0.043	0.054	0.068	0.083
	Throw	2.0	3.0	4.0	5.0	5.0	6.0	7.0	8.0	9.0
12" Diameter AK0.81	cfm	243	324	405	486	567	648	729	810	891
	Ps	0.009	0.015	0.024	0.034	0.046	0.061	0.077	0.095	0.120
	Throw	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0	11.0
14" Diameter AK1.10	cfm	330	440	550	660	770	880	990	1100	1210
	Ps	0.009	0.015	0.026	0.037	0.051	0.067	0.085	0.105	0.145
	Throw	3.0	5.0	6.0	7.0	8.0	9.0	10.0	11.0	12.0

402215C T-Bar Plaque Diffuser with Collar

Face Velocity	m/s	2.03	2.54	3.05	3.45	4.06	4.57	5.08	6.10	7.11
	FPM	400	500	600	700	800	900	1000	1200	1400
6" An.20 AK.275	cfm	80	100	120	140	160	180	200	240	280
	Ps	0.006	0.010	0.014	0.018	0.024	0.030	0.037	0.054	0.072
	Throw	1.0	2.0	2.0	2.5	3.0	3.5	4.0	4.5	5.5
8" An.35 AK.355	cfm	140	175	210	245	280	315	350	420	490
	Ps	0.010	0.015	0.022	0.029	0.038	0.049	0.060	0.086	0.117
	Throw	2.5	3.5	4.0	4.5	5.0	5.5	6.5	7.0	8.0
10" An.54 AK.62	cfm	216	270	324	378	432	486	540	648	756
	Ps	0.014	0.020	0.028	0.041	0.054	0.068	0.084	0.122	0.167
	Throw	4.0	5.5	6.5	8.0	9.0	10.0	11.5	14.5	17.0
12" An.78 AK.70	cfm	312	390	468	546	624	702	780	936	1092
	Ps	0.018	0.024	0.032	0.052	0.063	0.072	0.094	0.132	0.180
	Throw	5.5	7.0	8.5	1.0	11.5	13.0	14.5	17.5	20.5
14" An1.07 AK.75	cfm	428	535	642	749	856	963	1070	1284	1498
	Ps	0.022	0.030	0.040	0.064	0.080	0.115	0.140	0.205	0.277
	Throw	7.0	8.5	10.5	12.0	13.5	15.5	17.0	20.5	24.0

303301 Baseboard Diffuser

Face Velocity	m/s	1.52	2.03	2.54	3.05	3.56	4.06	4.57	5.08
	FPM	300	400	500	600	700	800	900	1000
15-inch Ak.161	cfm	48	64	80	96	112	128	144	161
	Ps	0.004	0.008	0.016	0.020	0.028	0.032	0.044	0.052
	Throw	50	6.0	7.5	10.0	11.0	13.0	15.5	17.0
	Spread	fpm	6.0	7.0	10.5	12.5	14.5	16.0	18.0
18-inch Ak.263	cfm	79	105	131	157	183	210	237	263
	Ps	0.012	0.024	0.032	0.048	0.068	0.088	0.108	0.132
	Throw	6.0	7.0	8.0	10.0	11.0	12.0	15.0	16.5
	Spread	5.0	7.0	7.5	9.0	10.5	12.0	14.0	16.0
24-inch Ak.462	cfm	139	185	231	277	323	370	416	462
	Ps	0.028	0.040	0.056	0.076	0.096	0.128	0.152	0.192
	Throw	5.5	6.0	6.5	8.0	9.5	11.0	12.0	13.5
	Spread	5.0	5.5	6.5	8.0	9.0	10.5	11.5	13.0

Aluminum Egg Crate Return Grill

Face Velocity	m/s	2.03	2.54	3.05	3.56	4.06	4.57	5.08
	FPM	400	500	600	700	800	900	1000
6"6 Ak.073	cfm	29	37	44	51	58	66	73
	Ps	0.010	0.013	0.018	0.022	0.030	0.037	0.048
	Throw	90	113	136	158	181	203	226
	Spread	fpm	6.0	7.0	10.5	12.5	14.5	16.0
8"8 Ak.226	cfm	90	113	136	158	181	203	226
	Ps	0.010	0.013	0.018	0.022	0.031	0.038	0.048
	Throw	106	133	159	186	212	239	265
	Spread	fpm	6.0	7.0	10.5	12.5	14.5	16.0
12"6 Ak.265	cfm	106	133	159	186	212	239	265
	Ps	0.010	0.014	0.018	0.023	0.031	0.038	0.049
	Throw	132	165	198	231	264	297	330
	Spread	fpm	6.0	7.0	10.5	12.5	14.5	16.0
14"6 Ak.330	cfm	132	165	198	231	264	297	330
	Ps	0.010	0.014	0.018	0.024	0.031	0.039	0.049
	Throw	163	204	245	286	326	367	408
	Spread	fpm	6.0	7.0	10.5	12.5	14.5	16.0
10"10 Ak.408	cfm	163	204	245	286	326	367	408
	Ps	0.010	0.014	0.018	0.024	0.031	0.039	0.049
	Throw	187	234	280	327	374	420	467
	Spread	fpm	6.0	7.0	10.5	12.5	14.5	16.0
14"8 Ak.467	cfm	187	234	280	327	374	420	467
	Ps	0.011	0.014	0.018	0.023	0.032	0.040	0.050
	Throw	253	316	379	442	506	569	632
	Spread	fpm	6.0	7.0	10.5	12.5	14.5	16.0
12"12 Ak.632	cfm	253	316	379	442	506	569	632
	Ps	0.011	0.014	0.018	0.024	0.032	0.040	0.051
	Throw	349	437	524	611	698	786	873
	Spread	fpm	6.0	7.0	10.5	12.5	14.5	16.0
24"8 Ak.873	cfm	349	437	524	611	698	786	873
	Ps	0.011	0.014	0.019	0.025	0.032	0.040	0.052
	Throw							
	Spread							

Engineering and Performance Data

Aluminum Egg Crate Return Grill(continued)

Face Velocity	m/s	2.03	2.54	3.05	3.56	4.06	4.57	5.08
	FPM	400	500	600	700	800	900	1000
6"6 Ak.073	cfm	29	37	44	51	58	66	73
	Ps	0.010	0.013	0.018	0.022	0.030	0.037	0.048
8"8 Ak.226	cfm	90	113	136	158	181	203	226
	Ps	0.010	0.013	0.018	0.022	0.031	0.038	0.048
12"6 Ak.265	cfm	106	133	159	186	212	239	265
	Ps	0.010	0.014	0.018	0.023	0.031	0.038	0.049
14"6 Ak.330	cfm	132	165	198	231	264	297	330
	Ps	0.010	0.014	0.018	0.024	0.031	0.039	0.049
10"10 Ak.408	cfm	163	204	245	286	326	367	408
	Ps	0.010	0.014	0.018	0.024	0.031	0.039	0.049
14"8 Ak.467	cfm	187	234	280	327	374	420	467
	Ps	0.011	0.014	0.018	0.023	0.032	0.040	0.050
12"12 Ak.632	cfm	253	316	379	442	506	569	632
	Ps	0.011	0.014	0.018	0.024	0.032	0.040	0.051
24"8 Ak.873	cfm	349	437	524	611	698	786	873
	Ps	0.011	0.014	0.019	0.025	0.032	0.040	0.052
18"12 Ak.991	cfm	396	496	595	694	793	892	991
	Ps	0.012	0.014	0.019	0.025	0.032	0.041	0.052
30"8 Ak.1108	cfm	443	554	665	776	886	997	1108
	Ps	0.012	0.015	0.019	0.025	0.033	0.041	0.052
24"12 Ak.1350	cfm	540	675	810	945	1080	1215	1350
	Ps	0.012	0.015	0.019	0.026	0.033	0.042	0.052
18"18 Ak.1523	cfm	609	762	914	1066	1218	1371	1523
	Ps	0.013	0.015	0.019	0.026	0.033	0.042	0.053
30"12 Ak.1716	cfm	686	858	1030	1201	1373	1544	1716
	Ps	0.013	0.015	0.019	0.026	0.034	0.042	0.053
20"20 Ak.1894	cfm	758	947	1136	1326	1515	1705	1894
	Ps	0.013	0.015	0.019	0.026	0.034	0.043	0.054
36"12 Ak.2039	cfm	816	1020	1223	1427	1631	1835	2039
	Ps	0.014	0.015	0.019	0.026	0.034	0.043	0.054
24"20 Ak.2272	cfm	909	1136	1363	1590	1818	2045	2272
	Ps	0.014	0.015	0.019	0.026	0.034	0.043	0.055
30"8 Ak.2550	cfm	1020	1275	1530	1785	2040	2295	2550
	Ps	0.014	0.016	0.019	0.027	0.034	0.043	0.055
24"24 Ak.2725	cfm	1090	1363	1635	1908	2180	2453	2725
	Ps	0.014	0.016	0.020	0.027	0.034	0.043	0.055
36"18 Ak.3052	cfm	1221	1526	1831	2136	2442	2747	3052
	Ps	0.014	0.016	0.020	0.027	0.034	0.043	0.056
30"24 Ak.3391	cfm	1352	1691	2029	2367	2705	3043	3381
	Ps	0.015	0.016	0.020	0.027	0.035	0.044	0.056
36"24 Ak.4024	cfm	1610	2012	2414	2817	3219	3622	4024
	Ps	0.015	0.016	0.020	0.027	0.035	0.044	0.057
30"30 Ak.4173	cfm	1669	2087	2504	2921	3338	3756	4173
	Ps	0.014	0.016	0.020	0.027	0.035	0.044	0.057

Aluminum Egg Crate Return Grill(continued)

Face Velocity	m/s	2.03	2.54	3.05	3.56	4.06	4.57	5.08
	FPM	400	500	600	700	800	900	1000
36"30 Ak.4944	cfm	1978	2472	2966	3461	3955	4450	4944
	Ps	0.014	0.016	0.021	0.028	0.035	0.045	0.056
48"24 Ak.5246	cfm	2098	2623	3148	3672	4197	4721	5246
	Ps	0.013	0.016	0.021	0.028	0.035	0.045	0.056
36"36 Ak.5820	cfm	2328	2910	3492	4074	4656	5238	5820
	Ps	0.012	0.015	0.021	0.028	0.036	0.045	0.054
48"36 Ak.7465	cfm	2986	3733	4479	5226	5972	6719	7465
	Ps	0.012	0.013	0.020	0.028	0.036	0.045	0.050
48"48 Ak.9398	cfm	3759	4699	5639	6579	7518	8458	9398
	Ps	0.012	0.013	0.020	0.028	0.036	0.045	0.050

303303 Baseboard Diffuser

Airflow (CFM)	m/s	1.52	2.03	2.54	3.05	3.56	4.06
	FPM	300	400	500	600	700	800
24-inch Ak.462	cfm	56	75	94	112	131	150
	Spread	7.0	8.0	9.0	10.0	11.0	12.0
	Throw	7.0	8.0	9.0	11.0	12.0	14.0
	Ps	0.010	0.018	0.030	0.038	0.054	0.072

303303 Baseboard Diffuser

Face Velocity	m/s	1.52	2.03	2.54	3.05	3.56	4.06	4.57	5.08
	FPM	300	400	500	600	700	800	900	1000
15-inch Ak.161	cfm	48	64	81	97	113	129	145	161
	Ps	0.012	0.024	0.032	0.048	0.068	0.088	0.108	0.132
18-inch Ak.263	cfm	79	105	132	158	184	210	237	263
	Ps	0.012	0.024	0.032	0.048	0.068	0.088	0.108	0.132

303403 Baseboard Return Air Grille

Face Velocity	m/s	1.52	2.03	2.54	3.05	3.56
	FPM	300	400	500	600	700
2 Feet Ak.330	cfm	99	132	165	198	231
	Ps	0.010	0.027	0.044	0.061	0.086
4 Feet Ak.655	cfm	197	262	328	393	459
	Ps	0.014	0.025	0.038	0.057	0.074

303304 Baseboard Register

Face Velocity	m/s	1.52	2.03	2.54	3.05	3.56	4.0	4.57	5.08
	FPM	300	400	500	600	700	800	900	1000
Pressure Loss		0.006	0.010	0.016	0.022	0.031	0.040	0.050	0.062
10"6 Ak.230	cfm	69	92	115	138	161	184	207	230
	Throw	9.0	11.5	14.5	17.5	20.0	23.0	25.5	29.0
12"6 Ak.290	cfm	87	116	145	174	203	232	261	290
	Throw	10.0	13.0	17.0	20.0	23.5	26.5	30.0	33.0
14"6 Ak.340	cfm	102	136	170	204	238	272	306	340
	Throw	11.0	14.5	18.0	22.0	25.5	29.0	32.5	36.0

DATA SUPPORT

Engineering and Performance Data

303402/303202 Baseboard Return Grille

Face Velocity	m/s	1.52	2.03	2.54	3.05	3.56
	FPM	300	400	500	600	700
14"4 Ak.366	cfm	110	146	183	220	256
	Ps	0.012	0.022	0.035	0.050	0.068
10"6 Ak.392	cfm	118	157	196	235	274
	Ps	0.013	0.023	0.037	0.052	0.072
12"6 Ak.46	cfm	138	184	230	276	322
	Ps	0.013	0.024	0.037	0.053	0.069
10"8 Ak.522	cfm	157	209	261	313	365
	Ps	0.012	0.022	0.035	0.050	0.068
14"6 Ak.366	cfm	159	212	265	318	371
	Ps	0.013	0.024	0.036	0.052	0.067
12"8 /16"6 Ak.626	cfm	188	250	313	376	439
	Ps	0.012	0.022	0.035	0.049	0.066
14"8 Ak.725	cfm	218	290	363	435	508
	Ps	0.013	0.023	0.035	0.049	0.066
20"6 Ak.75	cfm	225	300	375	450	525
	Ps	0.012	0.021	0.033	0.046	0.063
16"8 Ak.84	cfm	252	336	420	504	588
	Ps	0.012	0.021	0.033	0.046	0.063
14"10 Ak.912	cfm	274	365	456	547	638
	Ps	0.011	0.020	0.032	0.045	0.062
24"6 Ak.95	cfm	285	380	475	570	665
	Ps	0.012	0.023	0.033	0.047	0.065
20"8 Ak1.04	cfm	312	416	520	624	728
	Ps	0.012	0.020	0.032	0.044	0.060
14"12 Ak1.09	cfm	327	436	545	654	763
	Ps	0.013	0.024	0.036	0.052	0.067
30"6 Ak1.12	cfm	336	448	560	672	784
	Ps	0.012	0.022	0.032	0.042	0.062
24"8 Ak1.22	cfm	366	488	610	732	854
	Ps	0.010	0.020	0.030	0.042	0.058
14"14 Ak1.27	cfm	381	508	635	762	889
	Ps	0.013	0.023	0.035	0.049	0.066
36"6 Ak1.40	cfm	420	560	700	840	980
	Ps	0.012	0.021	0.031	0.043	0.059
24"10 /30"8 Ak1.56	cfm	468	624	780	936	1092
	Ps	0.011	0.019	0.030	0.043	0.059
36"8 Ak1.86	cfm	558	744	930	1116	1302
	Ps	0.010	0.018	0.029	0.400	0.540
24"12 Ak1.90	cfm	570	760	950	1140	1330
	Ps	0.010	0.018	0.029	0.041	0.056
30"10 Ak1.93	cfm	579	760	950	1140	1330
	Ps	0.012	0.016	0.028	0.040	0.056
30"12 /36"10 Ak2.32	cfm	696	928	1160	1392	1624
	Ps	0.010	0.018	0.029	0.400	0.540

402501&402501R6 Aluminum Egg Crate (Filter) Grille

Average Face Velocity	m/s	2.03	2.54	3.05	3.56	4.06	4.57	5.08
	FPM	400	500	600	700	800	900	1000
Pressure Loss		0.012	0.016	0.028	0.032	0.044	0.052	0.064
8"8 Ak.246	cfm	98	123	148	172	197	221	246
	Throw	6.0	7.0	8.0	9.0	11.0	12.0	13.0
12"12 Ak.632	cfm	253	316	379	442	506	569	632
	Throw	14.0	17.0	20.0	23.0	27.0	30.0	33.0
16"16 Ak1.19	cfm	476	595	714	833	952	1072	1190
	Throw	18.0	23.0	27.0	31.0	35.0	40.0	44.0
20"16 Ak1.48	cfm	592	740	888	1036	1184	1332	1480
	Throw	21.0	25.0	30.0	35.0	40.0	44.0	49.0
18"18 Ak1.50	cfm	600	750	900	1050	1200	1350	1500
	Throw	21.0	26.0	30.0	35.0	40.0	45.0	49.0
24"16 Ak1.77	cfm	708	885	1062	1239	1416	1593	1770
	Throw	23.0	28.0	33.0	38.0	43.0	49.0	54.0
20"20 Ak1.87	cfm	748	935	1122	1309	1496	1683	1870
	Throw	24.0	29.0	35.0	40.0	46.0	51.0	56.0
28"16 Ak2.07	cfm	828	1035	1242	1449	1656	1863	2070
	Throw	24.0	30.0	36.0	41.0	47.0	53.0	58.0
30"16 Ak2.21	cfm	884	1105	1326	1547	1768	1989	2210
	Throw	25.0	31.0	37.0	43.0	49.0	54.0	60.0
22"22 Ak2.27	cfm	908	1135	1362	1589	1816	2043	2270
	Throw	25.0	31.0	37.0	43.0	49.0	54.0	61.0
28"18 Ak2.32	cfm	928	1160	1392	1624	1856	2088	2320
	Throw	26.0	32.0	38.0	44.0	50.0	56.0	62.0
30"18 Ak2.55	cfm	1020	1275	1530	1785	2040	2295	2550
	Throw	27.0	33.0	39.0	45.0	52.0	58.0	64.0
24"24 /36"16 48"12 Ak2.65	cfm	1060	1325	1590	1855	2120	2385	2650
	Throw	28.0	34.0	41.0	47.0	53.0	60.0	66.0
30"20 Ak2.76	cfm	1104	1380	1656	1932	2208	2484	2760
	Throw	28.0	35.0	41.0	48.0	54.0	61.0	67.0
36"18 Ak2.98	cfm	1192	1490	1788	2086	2384	2682	2980
	Throw	29.0	36.0	43.0	50.0	57.0	63.0	70.0
30"22 Ak3.03	cfm	1212	1515	1818	2121	2424	2727	3030
	Throw	29.5	36.5	43.5	50.0	57.5	63.5	70.5
48"14 Ak3.09	cfm	1236	1545	1854	2163	2472	2781	3090
	Throw	30.0	37.0	44.0	51.0	58.0	64.0	71.0
36"20 /30"24 Ak3.30	cfm	1320	1650	1980	2310	2640	2970	3300
	Throw	31.0	38.0	45.0	52.0	60.0	67.0	74.0
48"16 Ak3.52	cfm	1408	1760	2112	2464	2816	3168	3520
	Throw	32.0	39.0	47.0	54.0	62.0	69.0	76.0
36"22 Ak3.63	cfm	1452	1815	2178	2541	2904	3267	3630
	Throw	32.0	40.0	48.0	55.0	62.0	70.0	77.0
36"24 Ak4.02	cfm	1608	2010	2412	2814	3216	3618	4020
	Throw	34.0	42.0	50.0	57.0	65.0	73.0	81.0
48"24 Ak5.26	cfm	2104	2630	3156	3682	4208	4734	5260
	Throw	39.0	48.0	57.0	66.0	75.0	84.0	93.0

303101 Baseboard Register

Face	m/s	1.52	2.03	2.54	3.05	3.56	4.0	4.57	5.08
Velocity	FPM	300	400	500	600	700	800	900	1000
Pressure Loss		0.008	0.012	0.016	0.024	0.032	0.044	0.052	0.064
10"6 Ak.230	cfm	75	100	125	150	175	200	225	250
	Throw	7.0	9.0	11.0	13.0	16.0	18.0	20.0	22.0
12"6 Ak.290	cfm	93	124	155	185	216	247	278	309
	Throw	7.0	9.0	12.0	14.0	16.0	19.0	21.0	23.0
14"6 Ak.340	cfm	110	147	184	221	258	294	331	368
	Throw	8.0	11.0	13.0	15.0	17.0	20.0	22.0	24.0

402502&402502R6 Aluminum Egg Crate Filter Grille

Average Face Velocity	m/s	1.52	2.03	2.54	3.05	3.56
	FPM	300	400	500	600	700
22"22 Ak.2.42	cfm	726	968	1210	1452	1694
	-Ps	0.004	0.006	0.010	0.014	0.020
46"22 Ak.5.06	cfm	1518	2024	2530	3036	3542
	-Ps	0.003	0.006	0.010	0.012	0.018

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