



Lima[®]

**GRILLES, REGISTERS
AND DIFFUSERS**

Edition 10



- Contact your customer service representative or territory sales manager for pricing and availability.
- Free freight when your total spend is a minimum of \$2600.*

Thousands of HVAC products ready to ship.



Residential Vent & Chimney



Vent:

Standard efficiency b-vent, high efficiency polypropylene, special gas vent for condensing, near-condensing, and non-condensing vent systems. Stock residential diameters and system components available in 3" – 14". Additional sizes available up to 30". Direct vent systems also available. Premium quality materials and designs backed by UL standards.

Chimney:

All fuel chimney systems for venting wood, coal, oil, or gas. Available in residential diameters 4" – 8". Additional sizes available up to 24". Pellet venting systems for gas, wood pellet, and bio-fuels. Stainless steel inner and outer materials. Variety of installer friendly components backed by UL standards.

Chimney Liner:

Aluminum and stainless steel. Lengths available up to 50'. Standard diameters available up to 8". Variety of installer friendly components backed by UL standards.



Grilles, Registers, & Diffusers

A full line for residential and commercial applications. Offered in steel, aluminum and plastic. Many sizes in stock for quick shipment.



Flexible Air Duct

Flexible air duct systems UL Greenguard Gold certified for residential and commercial applications. Complete line of R-4.2, R-6.0, and R-8.0 available in many outer jacket and core combinations from 3" - 24" diameters and 25' - 50' lengths. Flexible aluminum, duct, duct sleeves and uninsulated flex duct also available.



Interior Access Doors

Access Doors – High quality and affordable interior access doors for all types of requirements. In stock or custom.



Roof Top Products

New construction and retrofit drain systems, flashings, expansion joint covers, equipment rails and curbs, duct supports and pipe mounting pedestals. In stock, or made to order.



Duct Components

Components and accessories for the residential and commercial HVAC and sheet metal industries including flange, rail, corners, hangers & strapping, and duct access doors.



Offered by Hart & Cooley

Filters

A complete line of Multi-Pleat or Commercial & Industrial Disposable panel filters, available in fiberglass and polyester.



VAV Boxes

The SDV, single duct air terminal, features a primary inlet with an integral damper and a discharge plenum sized to fit standard Hart & Cooley hot water coils.

*Some restrictions may apply.



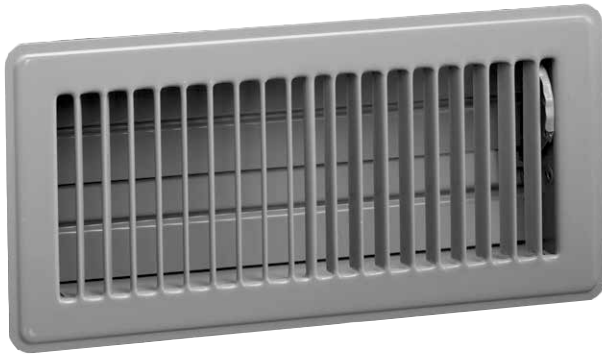
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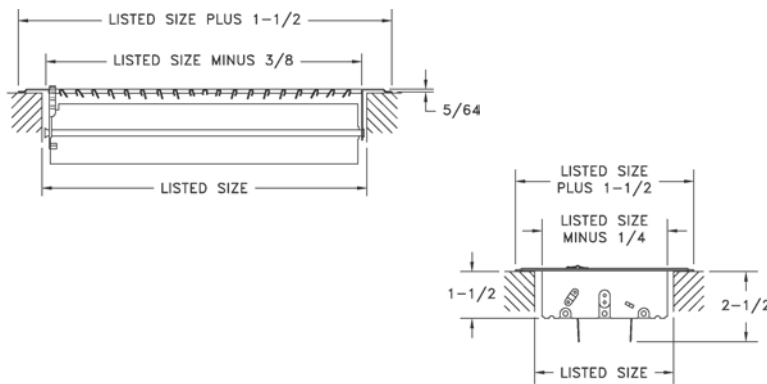
Model 800 Stamped Floor Register



Design — Model 800 is a stamped, straight-blade floor register.

Features — Toe-operated multi-louver damper. Heavy gauge, stamped face.

Construction — Steel. Brown finish standard. Bright White finish optional.



800 Available Sizes (in.)

Size	Free Area Sq. Inches
2 x 10	15
2 x 12	17
2 x 14	20
4 x 8	22
4 x 10	27
4 x 12	32
4 x 14	37
6 x 10	39
6 x 12	48
6 x 14	56

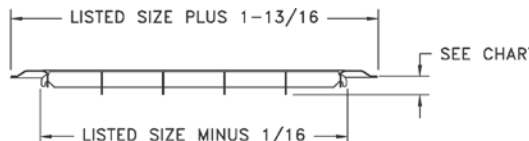


Model 825 Return Floor Grille

Design — Model 825 is a heavy-gauge bar return.

Features — Heavy-gauge, interlocking bars on 1/2" and 2" centers.

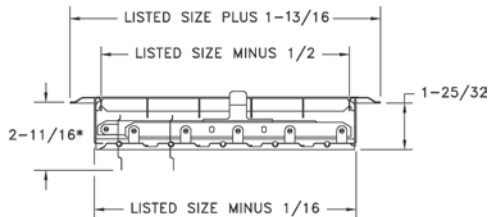
Construction — Steel. Brown finish standard. Bright White finish optional.



SIZE WIDTH	SIZE LENGTH	MAXIMUM DEPTH
4 THRU 14	6 THRU 30	21/32
14 THRU 14	32 THRU 36	25/32
16 THRU 18	16 THRU 36	
20 THRU 30	20 THRU 36	1-13/32



RESIDENTIAL FLOOR AND BASEBOARD



*3-9/16 FOR SIZES OVER 14 x 20

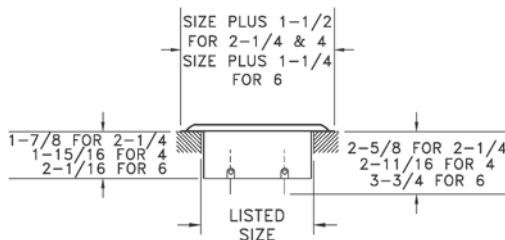
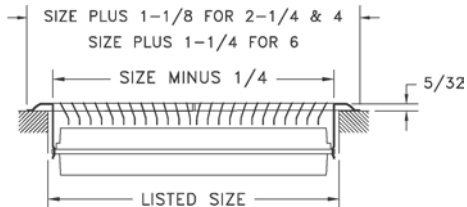
Model 830

Floor Register

Design — Model 830 is a heavy-duty floor register.

Features — Toe-operated, multi-louver damper.

Construction — Steel. Brown finish standard. Bright White finish optional.



Model 850

Deluxe Floor Register

Design — Model 850 is a heavy-duty floor register with individually welded diffusion vanes.

Features — Toe-operated multi-louver damper. Heavy gauge steel face. High traffic.

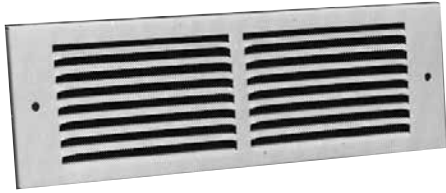
Construction — Steel. Brown finish standard. Bright White finish optional.

850 Available Sizes (in.)

Size	Free Area Sq. Inches
2 x 10	15
2 x 12	19
2 x 14	22
4 x 10	29
4 x 12	35
4 x 14	40
6 x 10	44
6 x 12	53
6 x 14	60

Model 827

Toe-Space Grille



Design — Model 827 is a stamped, straight-blade toe-space grille.

Features — 1/3" spaced fins set at 20 degrees. Two mounting holes.

Construction — Steel. Bright White finish standard.

Model 875

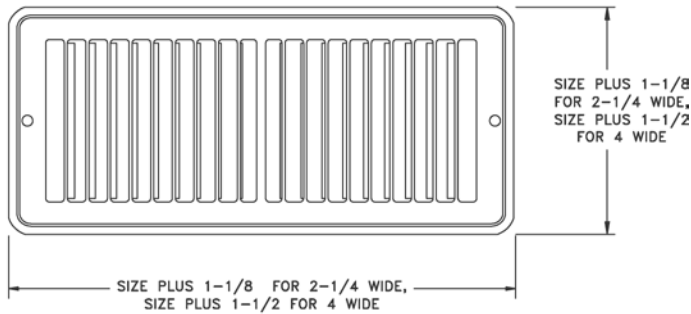
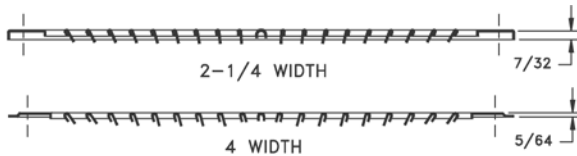
Toe-Space Grille



Design — Model 875 is a stamped, straight-blade toe-space grille.

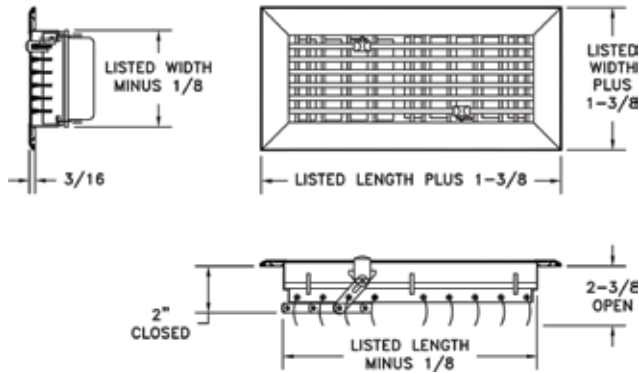
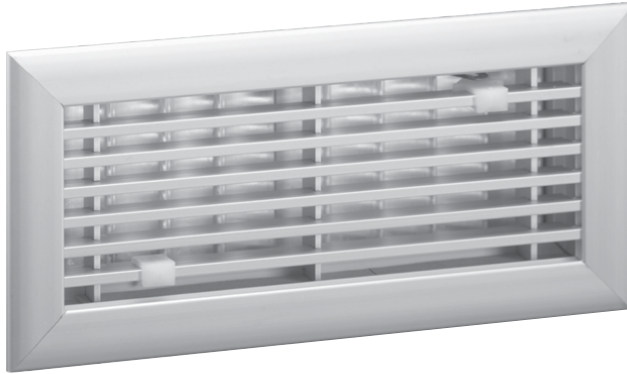
Features — Heavy-gauge stamped face. Two mounting holes.

Construction — Steel. Brown finish standard. Bright White finish optional.



875 Available Sizes (in.)

Size	Free Area Sq. Inches
10 x 2	15
12 x 2	17
14 x 2	20
10 x 4	27
12 x 4	32
14 x 4	37



Model AL833

Extruded Aluminum Floor Diffuser

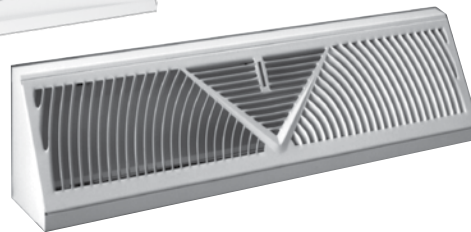
Design — Model AL833 is a heavy-duty floor diffuser with an adjustable air pattern.

Features — Comes with dual multi-louver valve and nylon slide valve operators. 1/2" bar spacing. For sizes not listed, see Model AL2500FF Series.

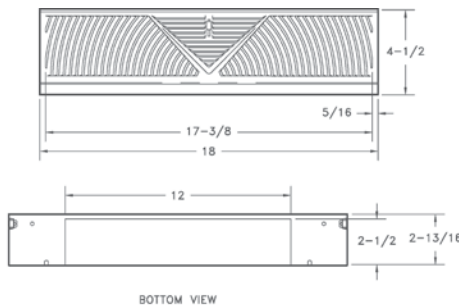
Construction — Aluminum. Extruded aluminum margins. Clear anodized finish.



15" face



18" face



BOTTOM VIEW

Catalog Number	Size	Free Area Sq. Inches	Overall Length	Height	Base Projection
470	15"	32	15	4-1/2	2-3/4
470	18"	38	18	4-1/2	2-3/4
471	18"	38	18	4-1/2	2-3/4

Model 470

Baseboard Diffuser

Design — Unique fan-shaped face pattern of Model 470 is designed to blanket wall or window area from baseboard installation.

Features — Snap-in face removes for easy installation and cleaning.

Construction — Steel. Brown or Bright White finish available.

Model 471

Baseboard Return

Design — Matching baseboard return product to Model 470 supply.



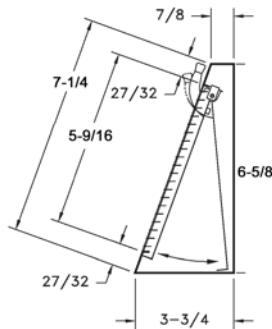
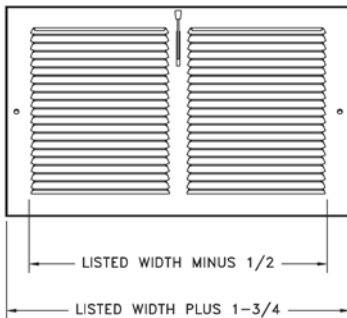
Model 649

Baseboard Register

Design — Model 649 is a stamped, straight-blade baseboard register.

Features — $\frac{1}{3}$ " spaced fins set at 20 degrees. Adjustable plate-style damper. Two mounting holes.

Construction — Steel. Bright White finish standard.



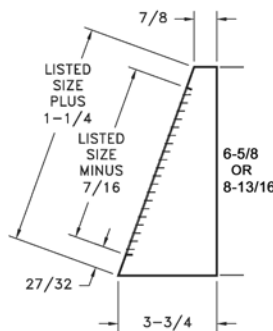
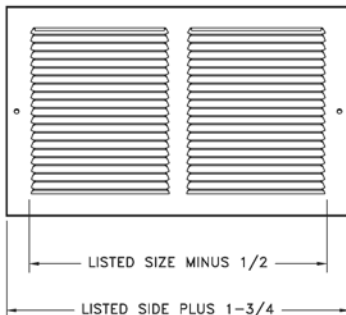
Model 652

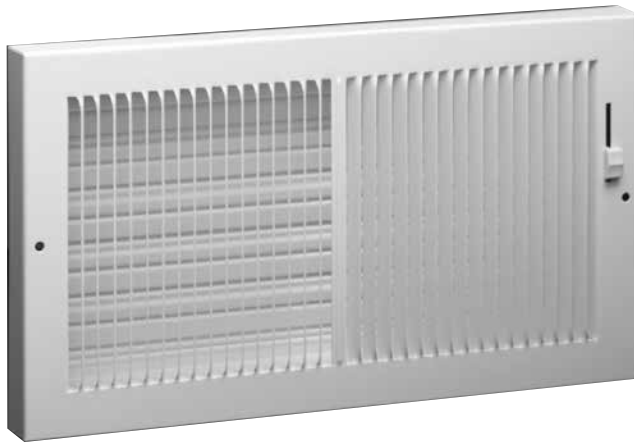
Baseboard Return Grille

Design — Model 652 is a stamped, straight-blade baseboard return grille.

Features — $\frac{1}{3}$ " spaced fins set at 20 degrees. Two mounting holes.

Construction — Steel. Bright White finish standard.





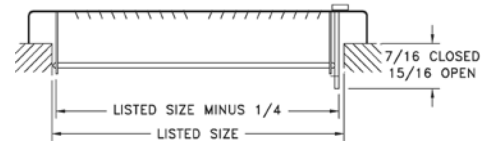
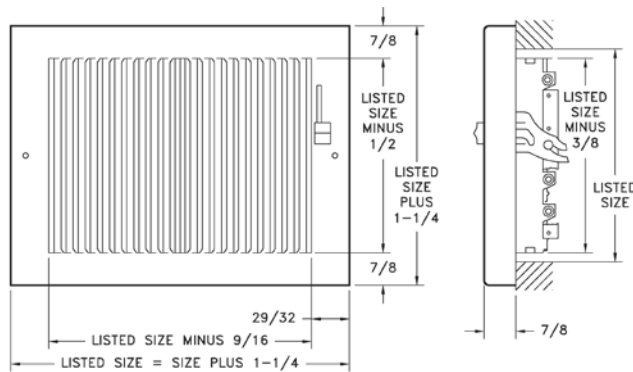
Model 667

Baseboard Register

Design — Model 667 is a stamped, straight-blade baseboard supply grille.

Features — $\frac{1}{3}$ " spaced fins set at 20 degrees. Two mounting holes. Multi-louver damper. $\frac{7}{8}$ " turnback.

Construction — Steel. Bright White finish standard.



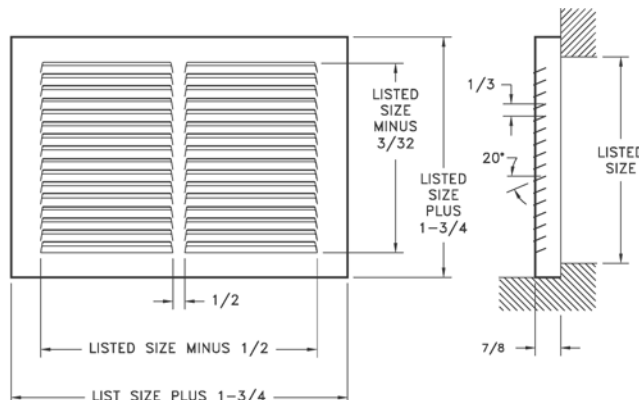
Model 671

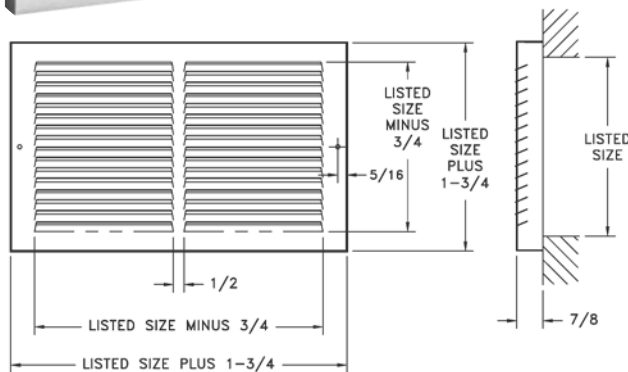
Baseboard Return Grille

Design — Model 671 is a stamped, straight-blade baseboard return grille.

Features — $\frac{1}{3}$ " spaced fins set at 20 degrees. $\frac{7}{8}$ " margin turnback.

Construction — Steel. Bright White finish standard.





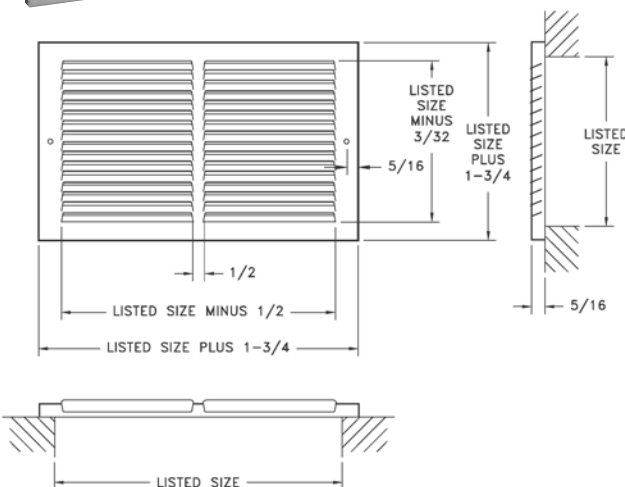
Model 60GH7

Stamped-Face Baseboard Return Grille

Design — Model 60GH7 is a stamped, straight-blade return for baseboard applications.

Features — One-piece steel construction. 7/8" margin turnback. Fins spaced on 1/2" centers and at 40 degrees.

Construction — Steel. Bright White finish standard.



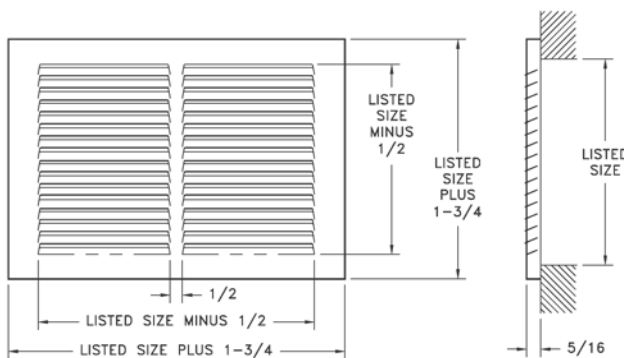
Model 60GH AL60GH

Stamped-Face Return Grille

Design — Model 60GH is a stamped, straight-blade return.

Features — Fins spaced on 1/2" centers and at 40 degrees.

Construction — Steel (60GH) or Aluminum (AL60GH). Bright White finish standard.



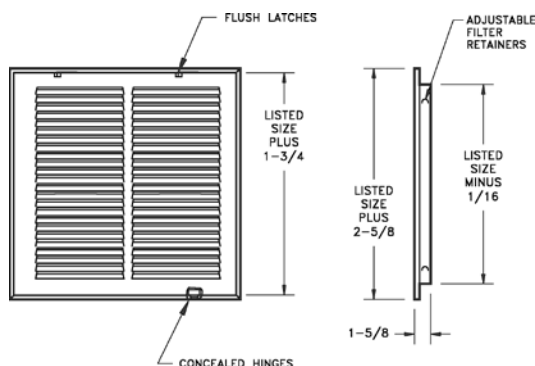
Model 63GH

Stamped-Face Return Grille

Design — Model 63GH is a stamped-blade return for baseboard applications.

Features — One-piece steel construction. $\frac{5}{16}$ " margin turnback. Fins spaced $\frac{1}{3}$ " and set at 20 degrees.

Construction — Steel. Bright White finish standard.



Model 60GHFF

Stamped-Face Return Grille with Filter Frame

Design — Acts as a holder for the filter and/or as an access to small air-handling units. Hinged on the bottom.

Features — Fins spaced on $\frac{1}{2}$ " centers at 40 degrees. One-inch filter frame is standard. Standard fastening method is thumb latch. Removable face. Also available for T-Bar applications.

Construction — Steel. Bright White finish standard.



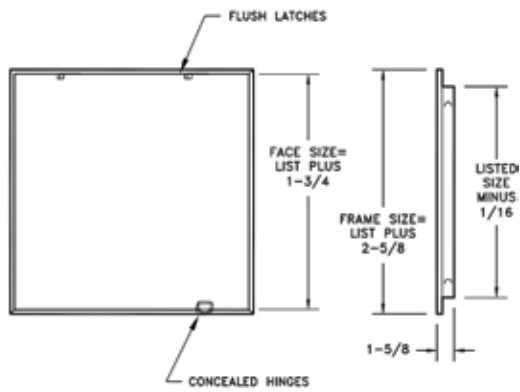
Model LAD

Access Door

Design — 22 gauge face, 24 gauge frame

Features — Standard fastening method is thumb latch. Removable face.

Construction — Steel. Bright White finish standard.





Series 500 AL500

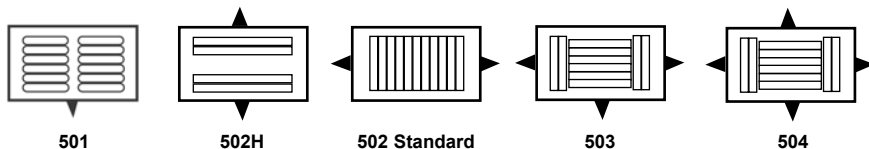
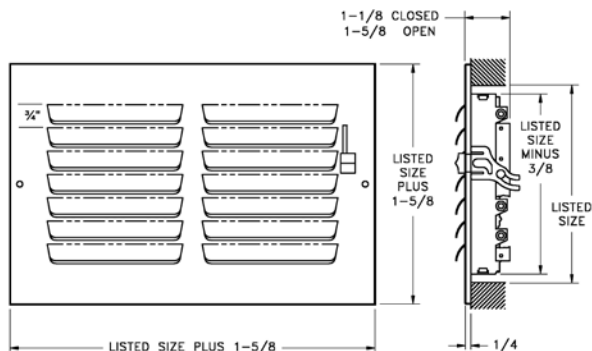
Stamped, Curved-Blade Supply Register with Multi-Louver Damper



Design — Series 500 is a stamped, curved-blade supply with multi-louver damper for ceiling or sidewall installation.

Features — Stamped one-piece face with multi-louver steel damper for volume control. Available in five airflow patterns. 3/4" spacing.

Construction — Steel or aluminum. White finish standard.



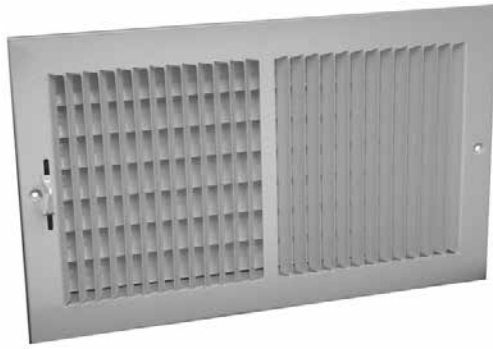
501

502H

502 Standard

503

504



602

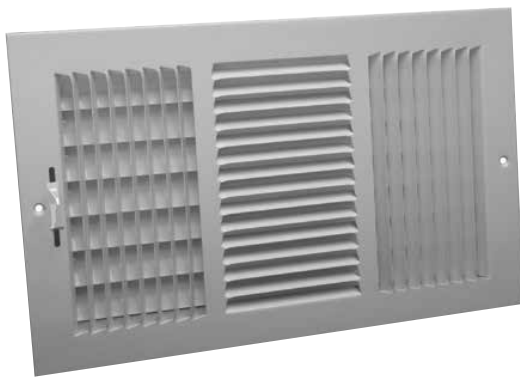
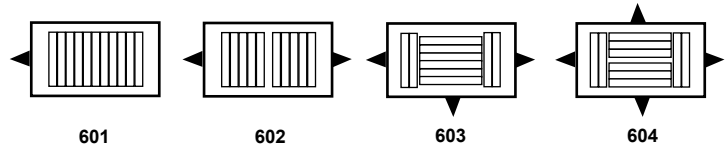
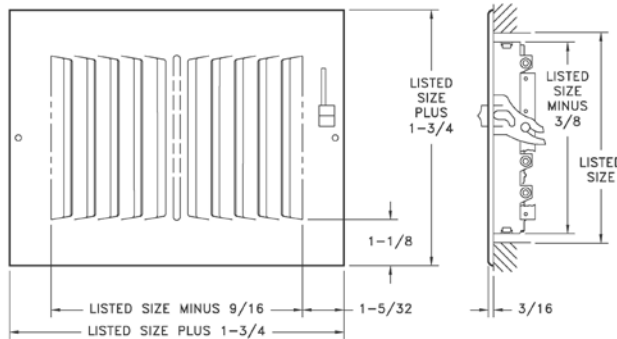
Series 600 AL600

Stamped, Lanced-Blade
Supply Register with Multi-
Louver Damper

Design — Series 600 is a stamped, straight-blade supply with multi-louver damper for ceiling or sidewall application.

Features — Stamped, one-piece face with multi-louver damper for volume control. Fins spaced on 1/2" centers at 40 degrees.

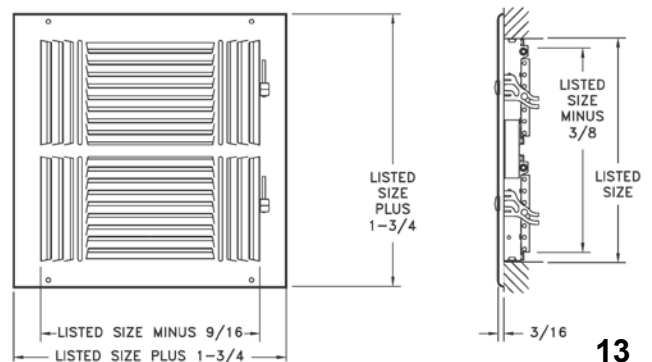
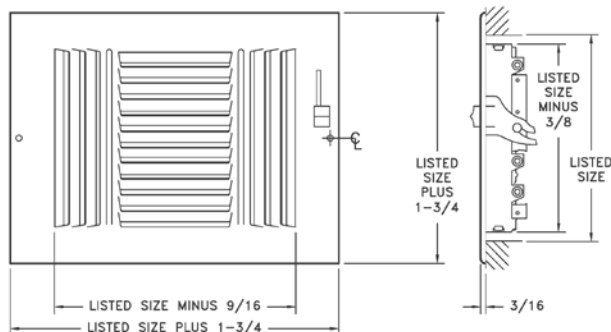
Construction — Steel or aluminum. White finish standard.



603



604





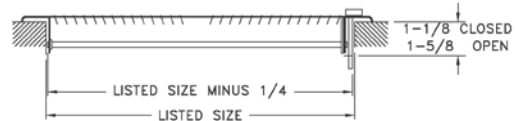
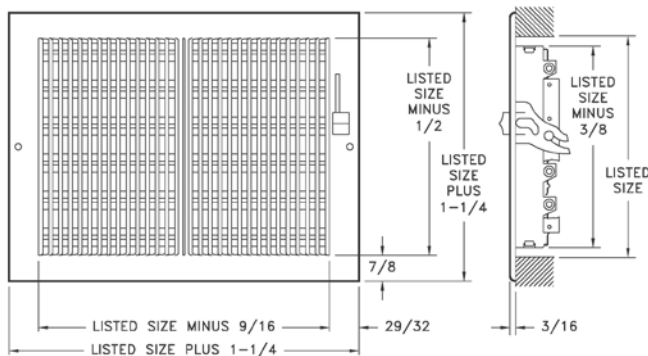
Model 632

Stamped Ceiling/Wall Register

Design — Model 632 is a stamped, straight-blade register for ceiling or sidewall applications.

Features — $\frac{1}{3}$ " spaced fins set at 20 degrees. Multi-louver damper. Two-way deflection.

Construction — Steel. Bright White finish standard.



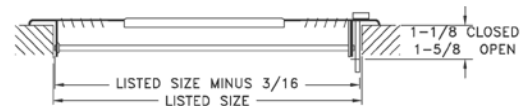
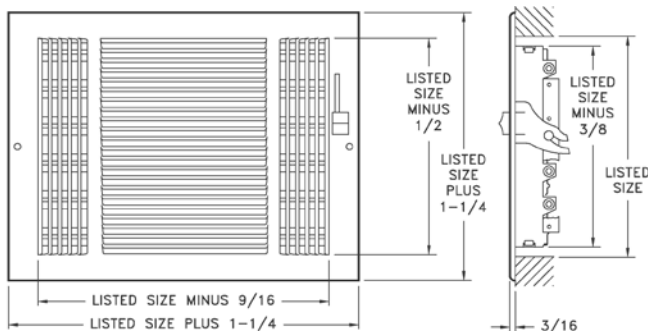
Model 633

Stamped Ceiling/Wall Register

Design — Model 633 is a stamped, straight-blade register for ceiling or sidewall applications.

Features — $\frac{1}{3}$ " spaced fins set at 20 degrees. Multi-louver damper. Three-way deflection.

Construction — Steel. Bright White finish standard.





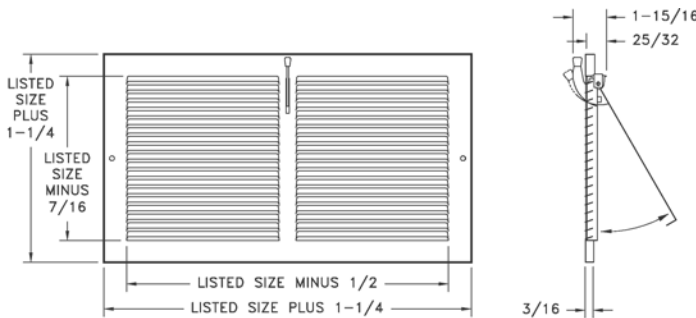
Model 653

Stamped Ceiling/Wall Register

Design — Model 653 is a stamped, straight-blade register for sidewall applications.

Features — $1/3$ " spaced fins set at 20 degrees. Adjustable plate-style damper.

Construction — Steel. Bright White finish standard.



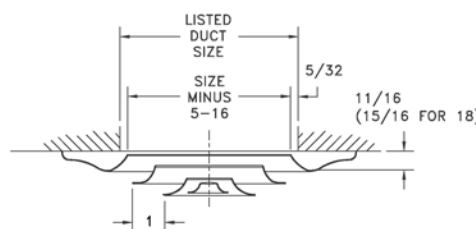
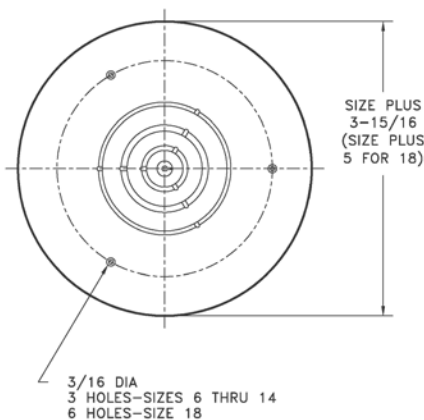
Model 150

Round Ceiling Diffuser

Design — Model 150 is a multi-cone, round ceiling diffuser. Outer ring mounts flush to ceiling.

Features — Step-down diffuser rings deflect air pattern 360 degrees. Duct ring with damper (Model 155) also available for use with Model 150.

Construction — Steel. Bright White finish standard.





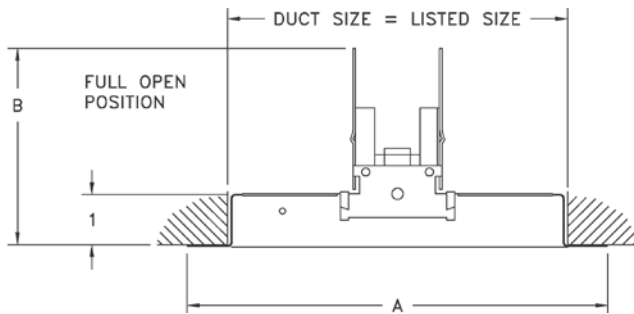
Model 155

Duct Ring with Butterfly Damper

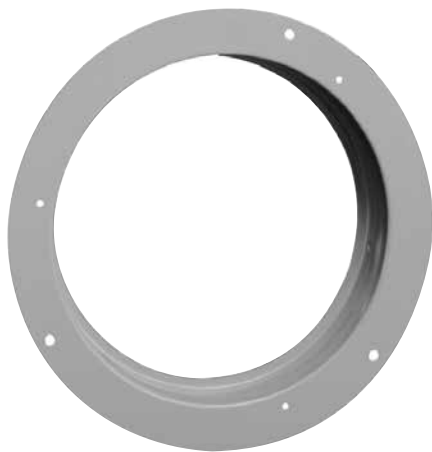
Design — Model 155 is a Duct Ring with integral Butterfly Damper for use with Model 150 Round Ceiling Diffuser.

Features — Pre-drilled damper and diffuser mounting holes.

Construction — All-steel construction. Brown finish standard.



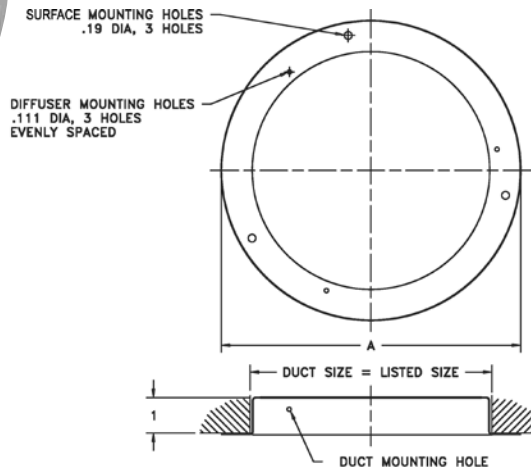
SIZE	A	B
6	7-1/2	3-11/16
8	9-1/2	4-11/16
10	10-7/8	5-11/16
12	12-7/8	6-11/16
14	14-7/8	7-11/16
18	18-3/16	9-11/16



Model 156

Duct Ring

Design — Duct ring only for installation of Model 150 Round Ceiling Diffuser.



SIZE	A
6	7-1/2
8	9-1/2
10	10-7/8
12	12-7/8
14	14-7/8
18	18-3/16



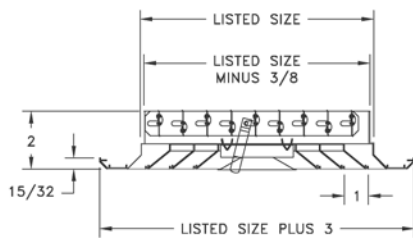
Series AL160

Square Ceiling Diffuser with Multi-Louver or Opposed-Blade Damper

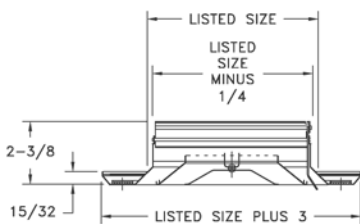
Design — Provides one-, two-, three- or four-way air diffusion. Used in sidewall and ceiling installations. Inconspicuous fingertip lever for air volume control.

Features — Face mount for easy installation; cores flush with margin. Opposed-blade (OBD) or Multi-louver (ML) damper. Sizes 6" to 14".

Construction — All extruded aluminum construction. Bright White finish standard.



AL164OBD



AL164ML



AL161 One-Way



AL162 Two-Way



AL163 Three-Way



AL164 Four-Way



AL165 Two-Way Corner



Series CB

Stamped Curved-Blade Register with Multi-Louver Damper

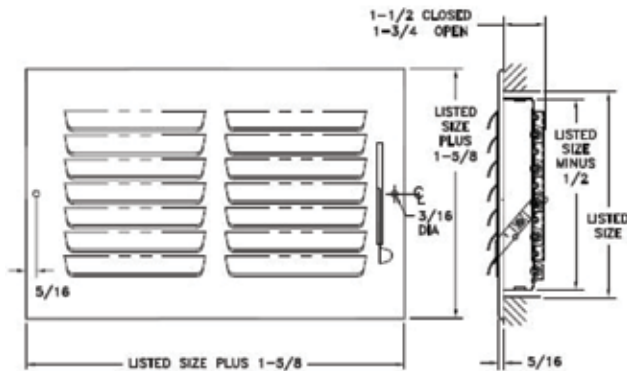


CB1 One-Way

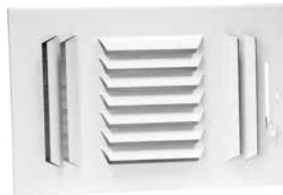
Design — Series CB is a stamped curved-blade register with multi-louver damper for ceiling or sidewall installation.

Features — Stamped, one-piece face with multi-louver damper for volume control. Available in four airflow patterns.

Construction — Steel with White finish. Metal handle.



CB2 Two-Way



CB3 Three-Way



CB4 Four-Way

Series SW

Stamped, Lanced-Blade Register with Multi-Louver Damper

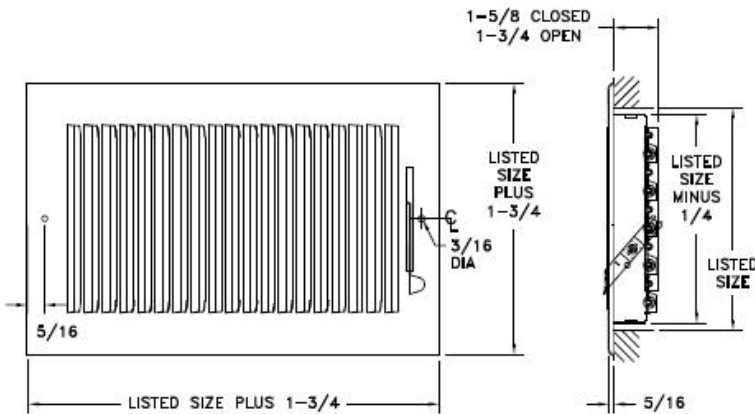


SW1 One-Way

Design — Series SW is a stamped, straight-blade register with multi-louver damper for ceiling or sidewall application.

Features — Stamped, one-piece face with multi-louver damper for volume control. Fins spaced on 1/2" centers at 40 degrees.

Construction — Steel with White finish. Metal handle.



SW2 Two-Way



SW3 Three-Way



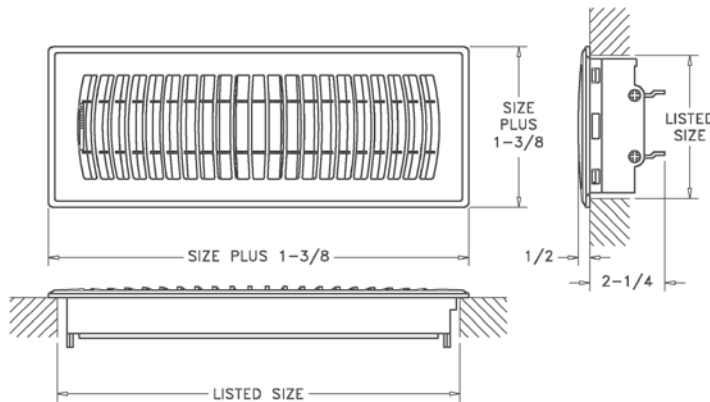
SW4 Four-Way



Rezzin Floor Diffuser

Features — Two-way air throw. Multi-angled fins for fan pattern of air distribution. Foot-operated, opposed-blade damper.

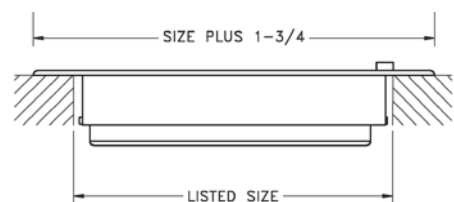
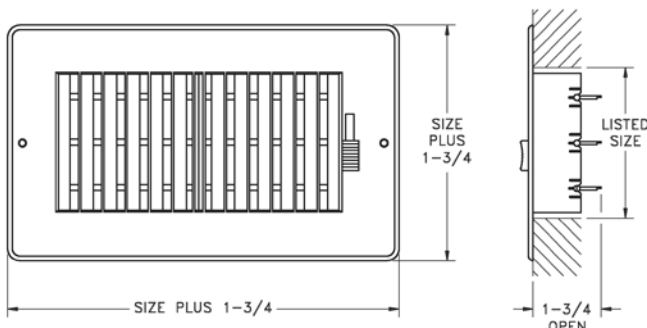
Construction — Engineered polymer. Solid ABS construction for floor use. Brown or Bright White finish.



Rezzin 2-Way Sidewall/Ceiling Register

Features — Two-way deflection. Integral multi-louver damper with easy-to-use damper handle.

Construction — Engineered polymer. Bright White finish.

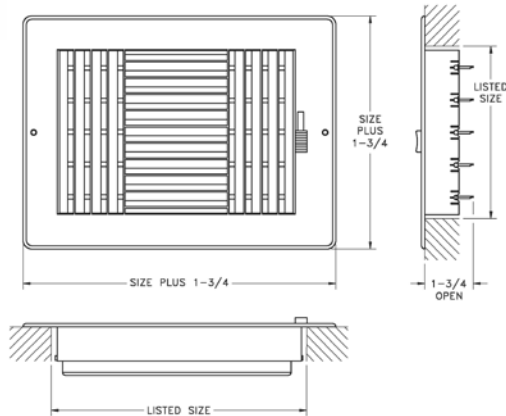




Rezzin 3-Way Sidewall/Ceiling Register

Features — 3-way deflection. Integral multi-louver damper with easy-to-use damper handle.

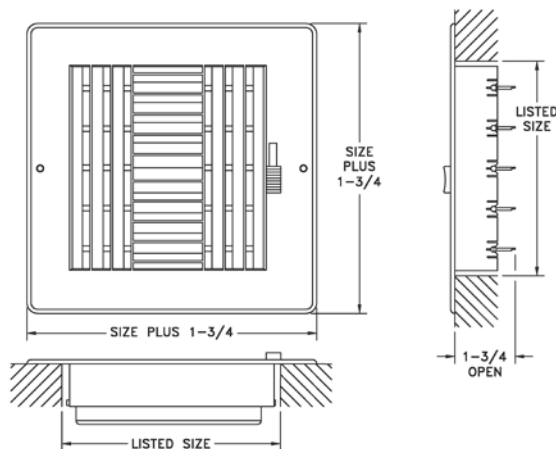
Construction — Engineered polymer. Bright White finish.

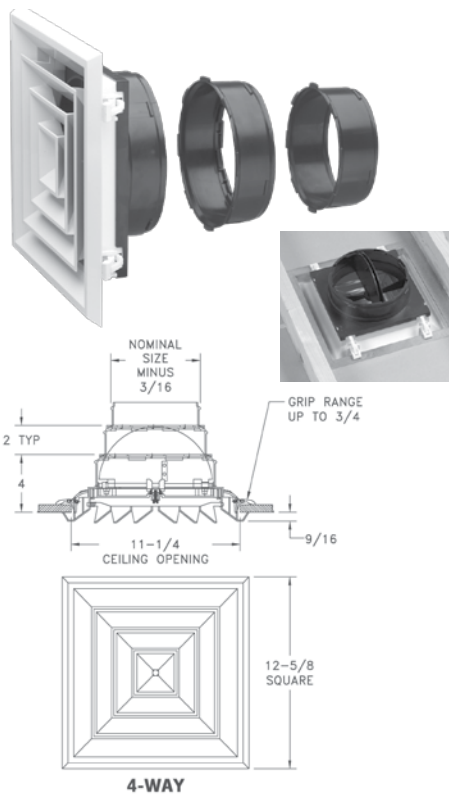


Rezzin 4-Way Sidewall/Ceiling Register

Features — Four-way deflection. Integral multi-louver damper with easy-to-use damper handle.

Construction — Engineered polymer. Bright White finish.

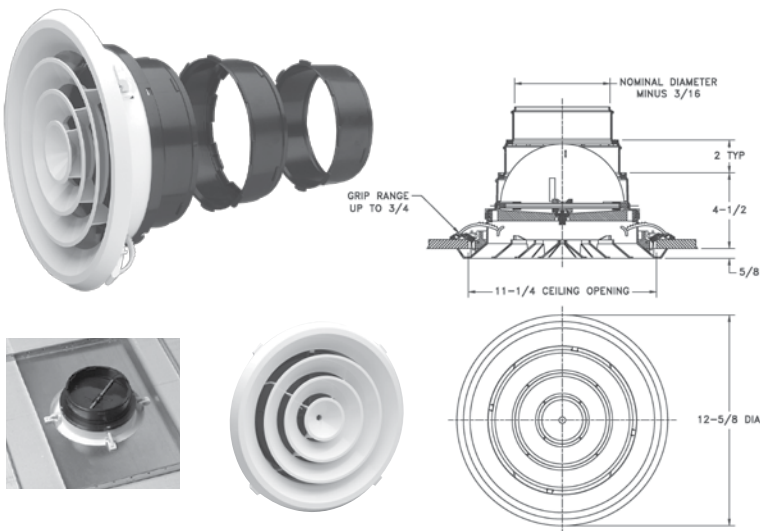




Rezzin Square Ceiling Diffuser

Features — Available in four-way, three-way and two-way corner. 6", 7" and 8" collars included. Installs without screws using ratcheting cam lock. Includes removable core and integral damper.

Construction — Engineered polymer. Bright White finish. Contains metal parts.



Rezzin Round Ceiling Diffuser

Features — 12" round face. 6", 7" and 8" collars included. Installs without screws using ratcheting cam lock. Includes removable core and integral damper.

Construction — Engineered polymer. Bright White finish. Contains metal parts.

Rezzin Rough-In Plates



16" O.C.



24" O.C.



T-Bar



16" O.C.



24" O.C.



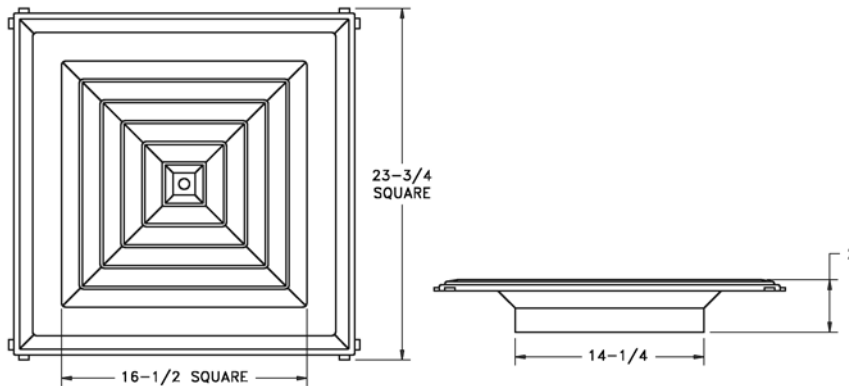
T-Bar



Rezzin 4-Way T-Bar Directional Diffuser

Features — Four-way deflection. Available with Rezzin square-to-round neck adapter, ordered separately.

Construction — Engineered polymer. Bright White finish. Contains metal screws.

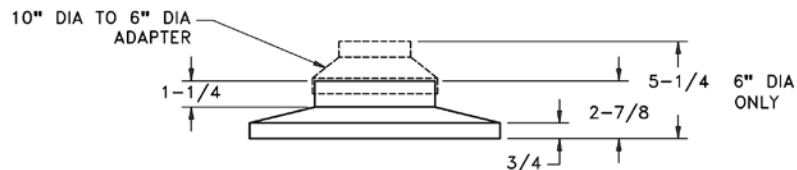
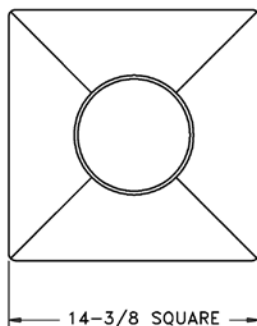


Rezzin Square to Round Neck Adapter

Design — Square-to-round transition for use with Rezzin 4-Way T-bar.

Features — Allows flex duct installation with square neck diffusers. Can use R42 damper.

Construction — Engineered polymer. Black finish. Contains metal screws/clips.

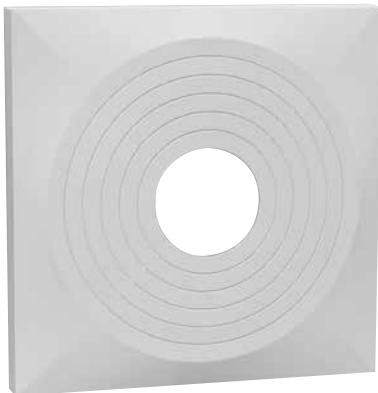
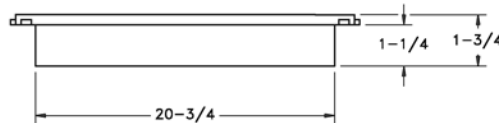
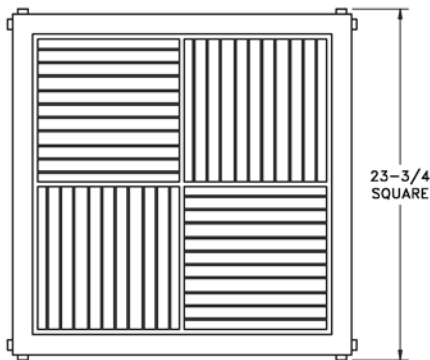




Rezzin Modular Core Diffuser

Features — Modular cores provide one-, two-, three- or four-way horizontal air patterns. Removable modules provide easy access to accessories. Available with Rezzin Back Panel to accommodate 6" through 16" collars, ordered separately.

Construction — Engineered polymer. Bright White finish.

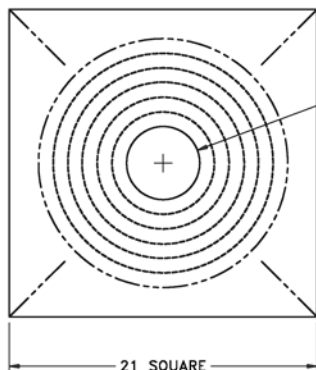


Rezzin Back Panel

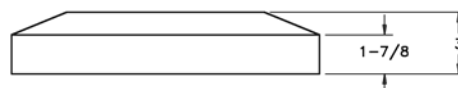
Design — Use with Rezzin Egg Crate or Rezzin Modular Core.

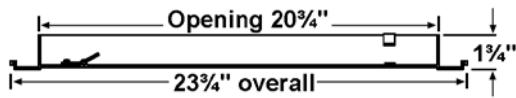
Features — 6" diameter hole with scored concentric rings in 2" increments for easy installation.

Construction — Engineered polymer. Bright White finish.



6" DIA HOLE WITH
CONCENTRIC SCORED RINGS
IN 2" INCREMENTS
TO 16" DIA





Rezzin Egg Crate

Filter Grille

Features — Egg crate style face, $\frac{1}{2}$ " x $\frac{1}{2}$ " x $\frac{1}{2}$ " grid pattern. Face is hinged to fit filter frame. Mounts flush with T-bar ceilings. Uses Rezzin Back Panel or standard fiberglass back. Uses standard 1" disposable filters.

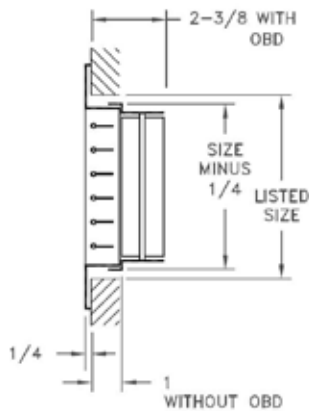
Construction — Engineered polymer. Bright white finish. Contains metal screws.



Model 90H or V AL90H or V

Single-Deflection Supply with or without Opposed-Blade Damper

Design — Model 90H or V provides easily adjustable air control for any desired pattern in a single plane. Model 90H or V OBD provides effective air deflection and exacting volume control.



Features — Front row of adjustable blades are set on 3/4" centers to provide any required deflection. Models with an opposed-blade damper ensure exacting volume control by spreading air equally over entire register face. Damper is screwdriver-operated. Extremely shallow depth allows damper to be used in shallow stack heads.

Construction — Steel or Aluminum. Blades are individually adjustable and spring-stiffened at both ends. Bright White finish standard. Countersunk mounting holes.

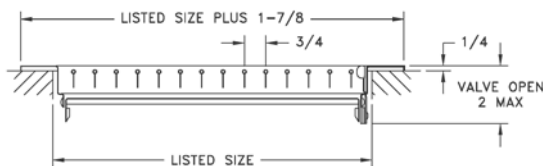


Model 900H or V AL900H or V

Single-Deflection Supply with Multi-Louver Damper

Design — Provides adjustable blade settings for Supply or Return applications. Lever-operated, multi-louver damper provides exacting volume control.

Features — Front row of adjustable blades are set on 3/4" centers to provide any required deflection. Rear damper blades for volume control on 1" spacings. When closed, damper blades interlock to prevent air leakage.



Construction — Steel or Aluminum. Blades are individually adjustable and spring-stiffened at both ends. Bright White finish standard. Countersunk mounting holes.

H means horizontal blades
V means vertical blades



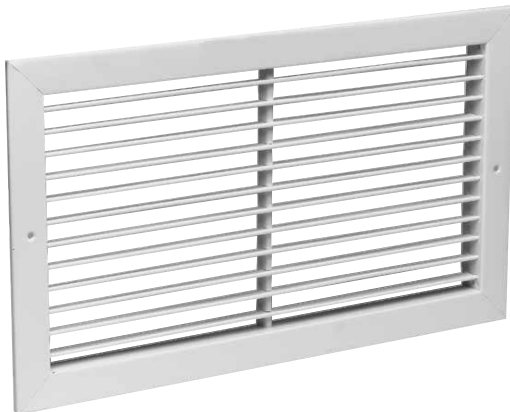
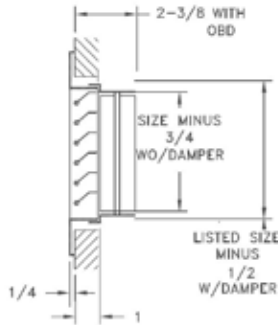
Model S90H or V

Stationary-Bar Return Grille with or without Opposed-Blade Damper

Design — Model S90H or V is a matching return air grille for the Series 90, 900 and 990 supply registers.

Features — Blades are spaced on $\frac{3}{4}$ " centers and set at a 35° angle to restrict vision. Opposed-blade damper (OBD) is easily operated with a screwdriver through face. Extremely shallow depth allows damper to be used in shallow stackheads. Fixed bar blades.

Construction — Steel. Countersunk mounting holes. Mullion spacing not to exceed 8". Bright White finish standard.



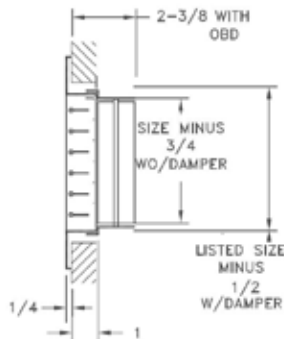
Model ALS90ZH or V

Stationary-Bar Return Grille with or without Opposed-Blade Damper

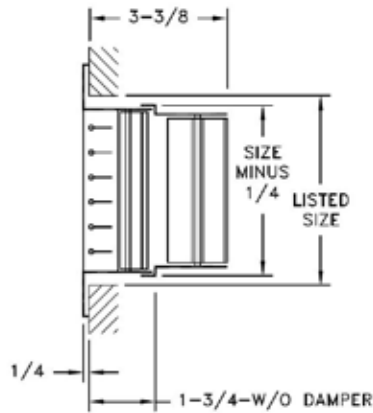
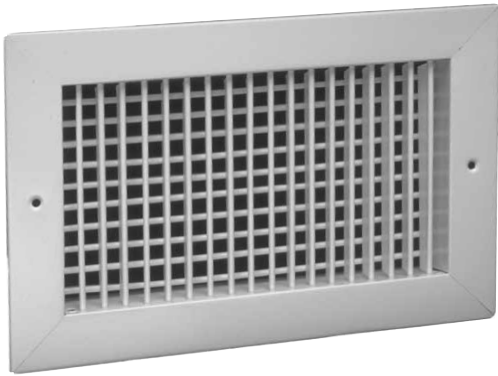
Design — Model ALS90ZH or V is a matching return air grille for the series 90, 900 or 990 supply registers.

Features — Blades are spaced at $\frac{3}{4}$ " centers and set at a 90° angle. Opposed-blade damper (OBD) is easily operated with a screwdriver through face. Extremely shallow depth allows damper to be used in shallow stackheads.

Construction — Aluminum. Bright White finish standard. Countersunk mounting holes.



H means horizontal blades
V means vertical blades



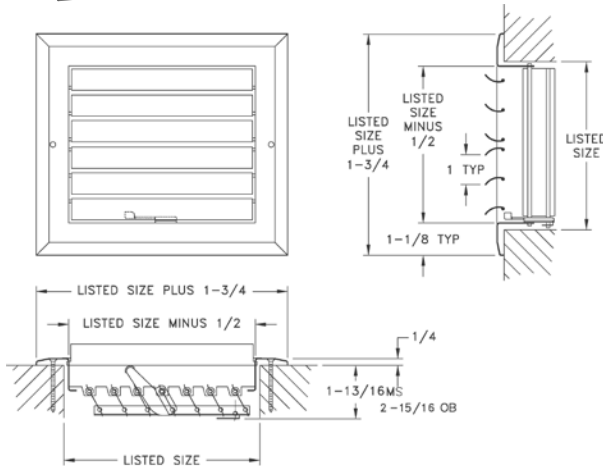
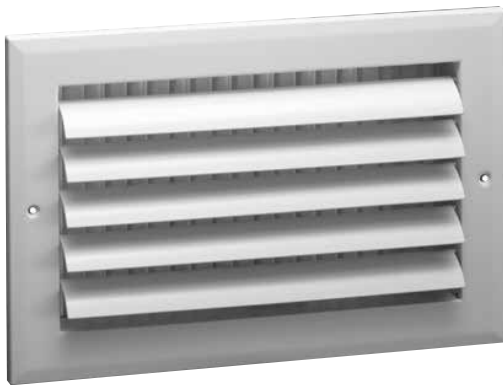
Model 990H or V AL990H or V

Double-Deflection Supply with or without Opposed-Blade Damper

Design — Model 990H or V and AL990H or V provide maximum four-way diffusion. Model 990H or V OBD and AL990H or V OBD provide complete air control in both planes and equal air distribution over entire register face.

Features — Front and rear blades are set on $\frac{3}{4}$ " centers with adjustment of each easily accomplished through face. OBD is screwdriver-operated. Minimum OBD depth allows use in shallow stackheads.

Construction — Steel or Aluminum. Bright White finish standard. Countersunk mounting holes.



Series AL270

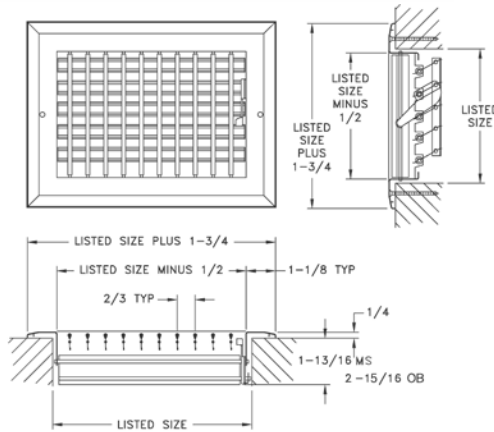
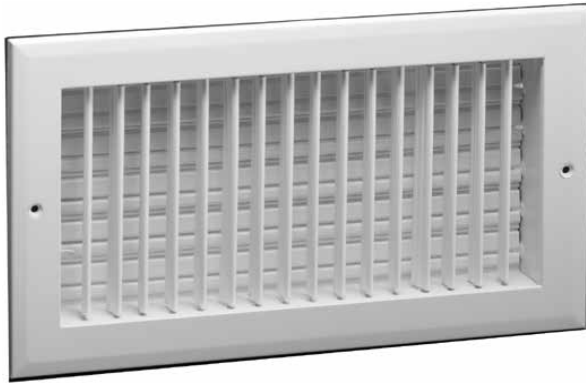
Adjustable, Curved-Blade, Sidewall Register with Multi-Louver Damper

Design — Provides one-, two-, three- or four-way air diffusion. Used for sidewall or ceiling applications. For ceiling applications the curved-blade design provides optimum ceiling effect.

Features — Adjustable curved blades increase deflection control. Multi-louver damper provides dual airflow control, curved-blade face adjustment and damper adjustment. Stamped face margins eliminate mitered corners and rough edges.

Construction — Aluminum face with painted steel damper. Bright White finish standard.

H means horizontal blades
V means vertical blades



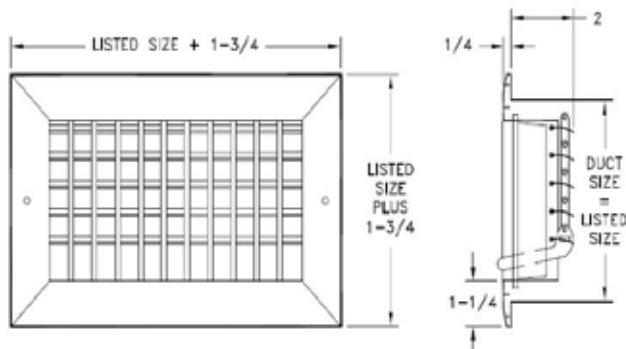
Model AL278

Adjustable, Straight-Blade, Sidewall Register with Multi-Louver Damper

Design — Model AL278 is an aluminum sidewall register. Lever-operated, multi-louver damper provides exacting volume control.

Features — Stamped face margins eliminate mitered corners and potential rough edges. Adjustable, straight louvers provide individual deflection control.

Construction — Aluminum face with painted steel damper. Bright White finish standard.



Model ALHM ALVM

Supply Register

Design — Model ALHM or ALVM is a supply register.

Features — Horizontal blades for ALHM and vertical blades for ALVM. Single-deflection. Adjustable blades. Multi-louver damper. 3/4" blade spacing.

Construction — Extruded aluminum. Bright White or clear anodized finish available.

Fractional sizes not advised for ML Damper.



Model ALH ALV

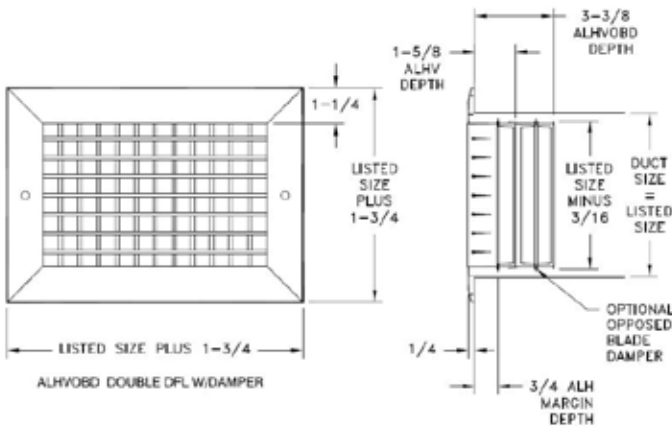
Supply Grille

Design — Model ALH or ALV is a supply grille.

Features — Horizontal blades for ALH and vertical blades for ALV. Single-deflection. Adjustable blades. $\frac{3}{4}$ " blade spacing.

Construction — Extruded aluminum. Bright White or clear anodized finish available.

Fractional sizes available.



Model ALHR90

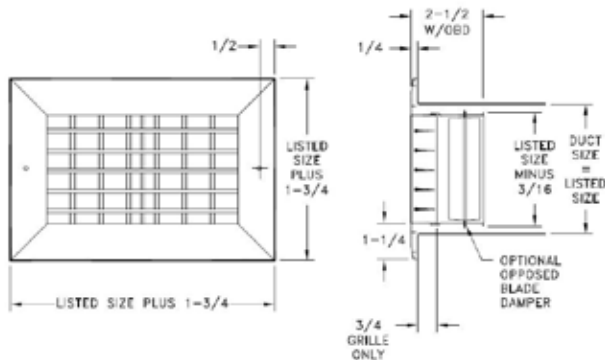
Return Grille

Design — Model ALHR90 is a return grille.

Features — Fixed horizontal blades at 90°. $\frac{3}{4}$ " blade spacing.

Construction — Extruded aluminum. Bright White or clear anodized finish available.

Fractional sizes available.





Model ALHR45

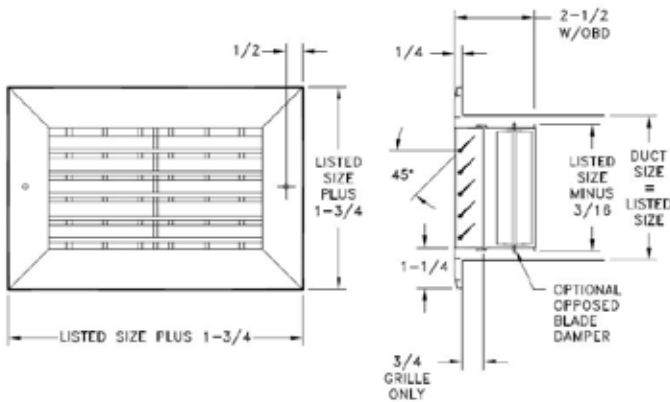
Return Grille

Design — Model ALHR45 is a return grille.

Features — Fixed horizontal blades at 45°. 3/4" blade spacing.

Construction — Extruded aluminum. Bright White or clear anodized finish available.

Fractional sizes available.



Model ALHOBD ALVOBD

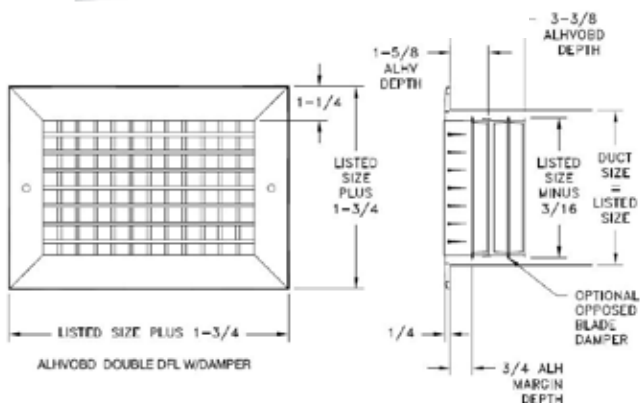
Supply Register

Design — Model ALHOBD or ALVOBD is a supply register.

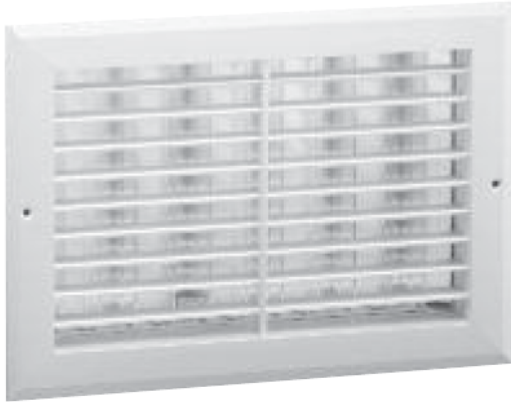
Features — Horizontal blades for ALHOBD and vertical blades for ALVOBD. Single-deflection. Adjustable blades. Opposed-blade damper. 3/4" blade spacing.

Construction — Extruded aluminum. Bright White or clear anodized finish available.

Fractional sizes available.



H means horizontal blades
V means vertical blades



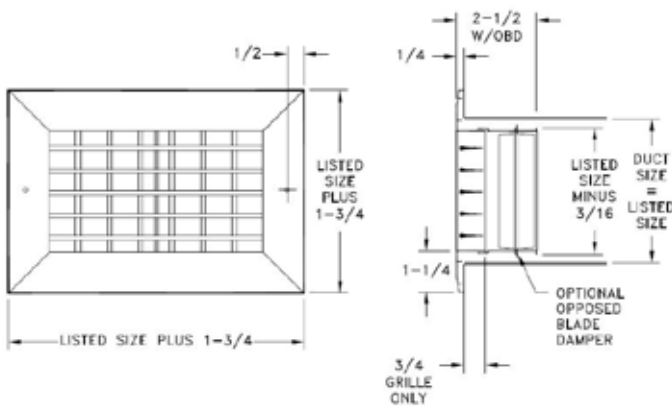
Model ALHR90OBD Return Register

Design — Model ALHR90OBD is a return register.

Features — Fixed horizontal blades at 90°.
Opposed-blade damper. 3/4" blade spacing.

Construction — Extruded aluminum. Bright White or clear anodized finish available.

Fractional sizes available.



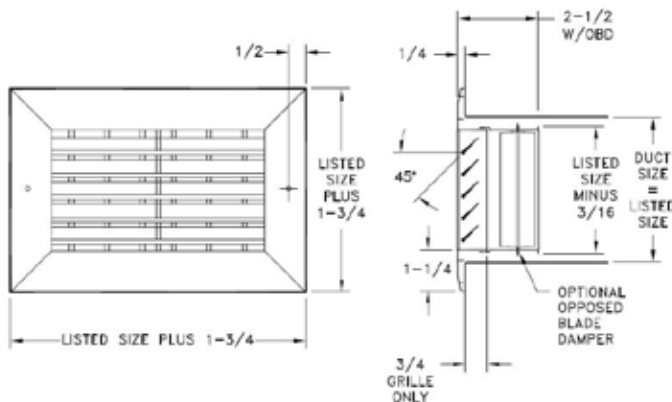
Model ALHR45OBD Supply Register

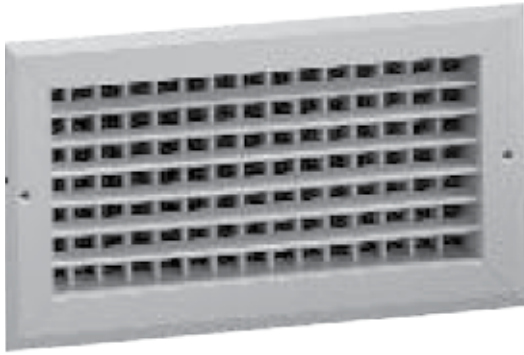
Design — Model ALHR45OBD is a supply register.

Features — Fixed horizontal blades at 45°.
Opposed-blade damper. 3/4" blade spacing.

Construction — Extruded aluminum. Bright White or clear anodized finish available.

Fractional sizes available.





Model ALHV ALVH

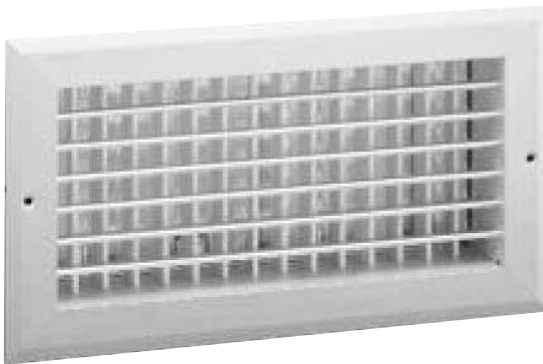
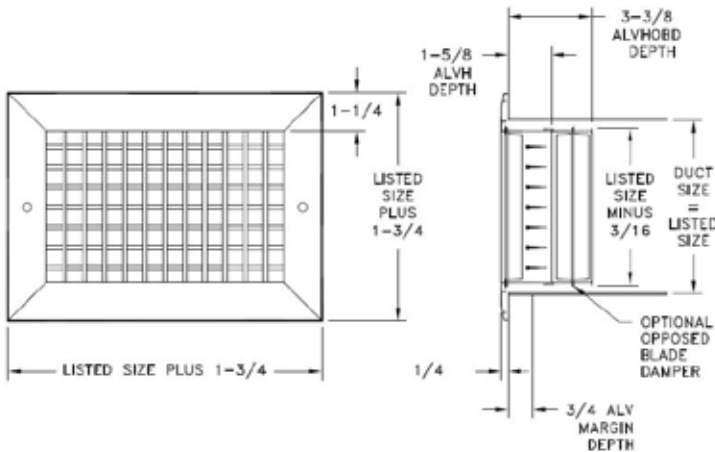
Supply Grille

Design — Model ALHV or ALVH is a supply grille.

Features — Horizontal front blades for ALHV and vertical front blades for ALVH. Double-deflection. Adjustable blades. $\frac{3}{4}$ " blade spacing.

Construction — Extruded aluminum. Bright White or clear anodized finish available.

Fractional sizes available.



Model ALHVOBD ALVHOBD

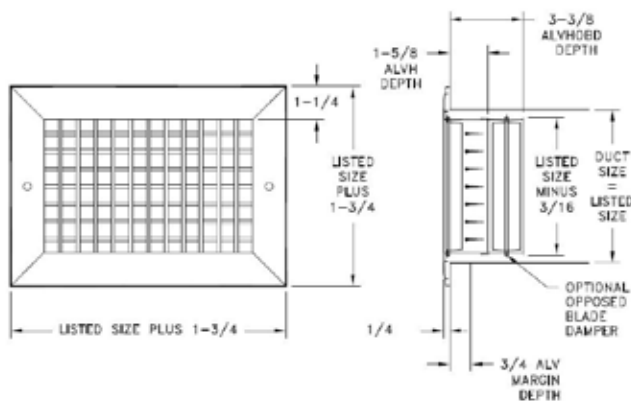
Supply Grille

Design — Model ALHVOBD or ALVHOBD is a supply grille.

Features — Horizontal front blades for ALHVOBD and vertical front blades for ALVHOBD. Double-deflection. Adjustable blades. $\frac{3}{4}$ " blade spacing.

Construction — Extruded aluminum. Bright White or clear anodized finish available.

Fractional sizes available.



H means horizontal blades
V means vertical blades



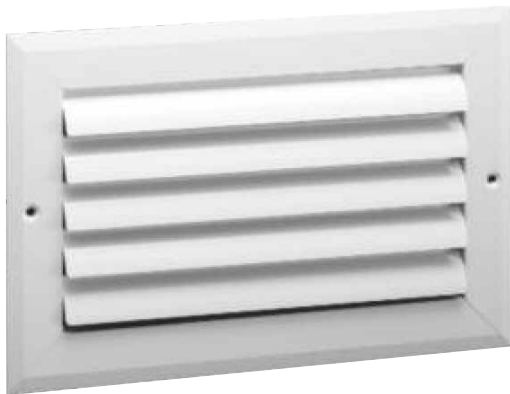
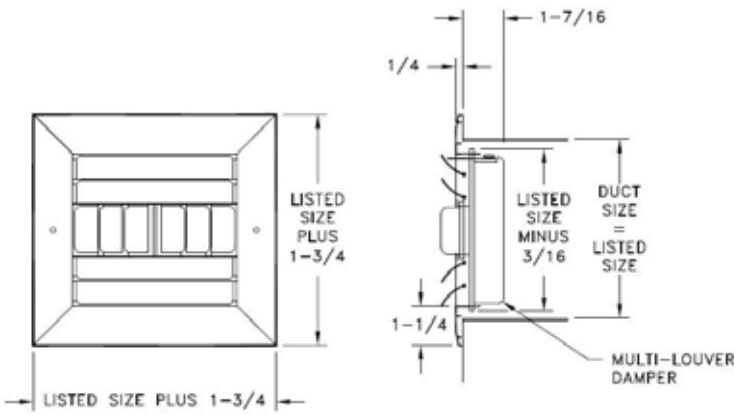
Model ALCML Ceiling Supply Register

Design — Provides one-, two-, three- or four-way air diffusion. Used in ceiling installations.

Features — Adjustable curved blades. Multi-louver damper. 1" blade spacing.

Construction — Extruded aluminum. Bright White or clear anodized finish available.

Fractional sizes not advised for ML Damper.



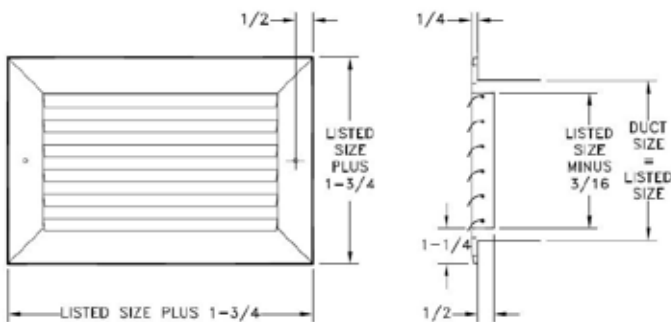
Model ALC Ceiling Supply Grille

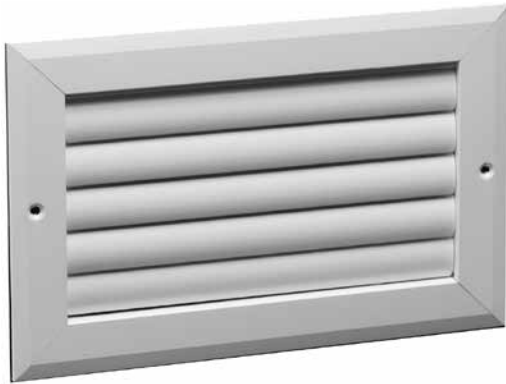
Design — Provides one-, two-, three- or four-way air diffusion. Used in ceiling installations.

Features — Adjustable curved blades. 1" blade spacing.

Construction — Extruded aluminum. Bright White or clear anodized finish available.

Fractional sizes available.





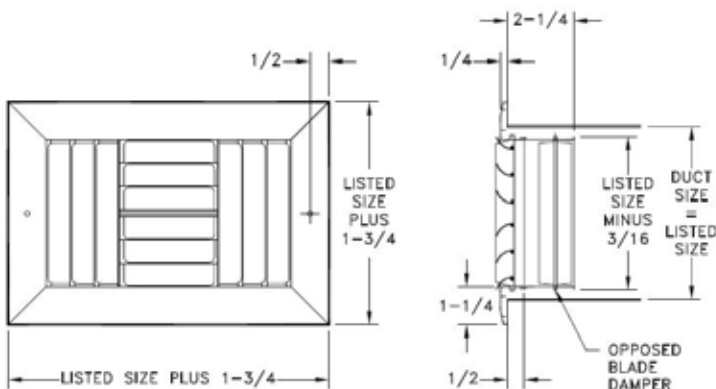
Model ALCOBD Ceiling Supply Register

Design — Provides one-, two-, three- or four-way air diffusion. Used in ceiling installations.

Features — Adjustable curved blades. Opposed-blade damper. 1" blade spacing.

Construction — Extruded aluminum. Bright White or clear anodized finish available.

Fractional sizes available.



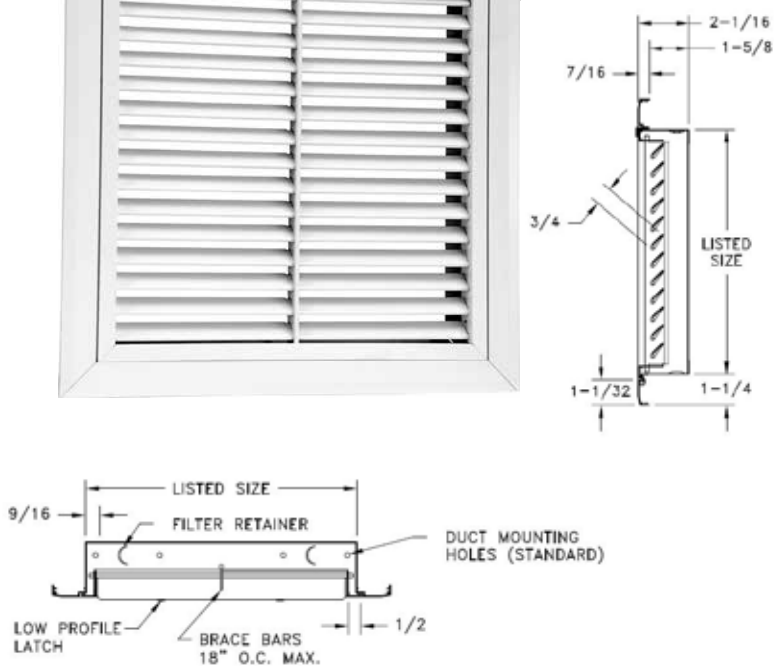
Model ALH45FF Filter Grille

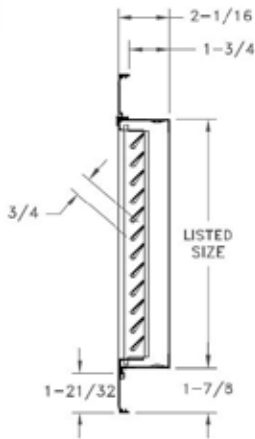
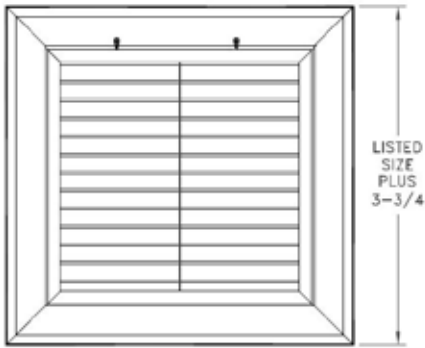
Design — Model ALH45FF is a filter grille.

Features — Horizontal front blades fixed at 45°. Accepts 1" filter. 3/4" blade spacing. Plastic slide latch fastener.

Construction — Extruded aluminum. Bright White or clear anodized finish available.

Fractional sizes available.





Model ALH45TFF T-Bar Filter Grille

Design — Model ALH45TFF is a T-Bar filter grille.

Features — Bar-style face with blades fixed at 45°. Accepts 1" filter. Mounts flush with T-Bar ceilings. 3/4" blade spacing. Plastic slide latch fastener.

Construction — Extruded aluminum. Bright White or clear anodized finish available.

LISTED SIZE	T-BAR	OVERALL
20 X 20	24 X 24	23-3/4 X 23-3/4
44 X 20	48 X 24	47-3/4 X 23-3/4

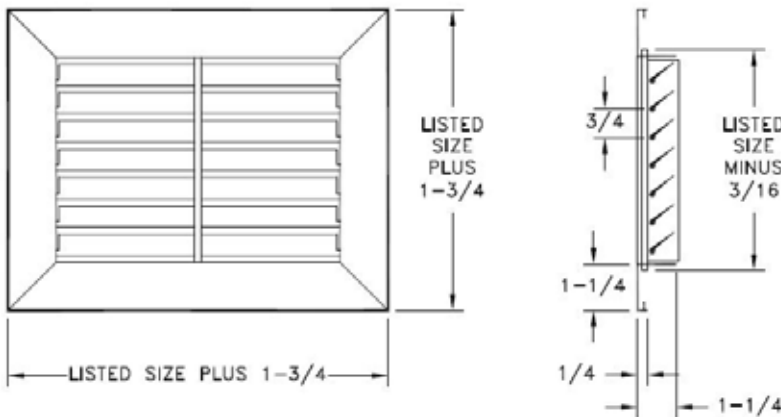


Model ALHR45T T-Bar Return Grille

Design — Model ALHR45T is a T-Bar return grille.

Features — Bar-style face with blades fixed at 45°. Mounts flush with T-Bar ceilings. 3/4" blade spacing.

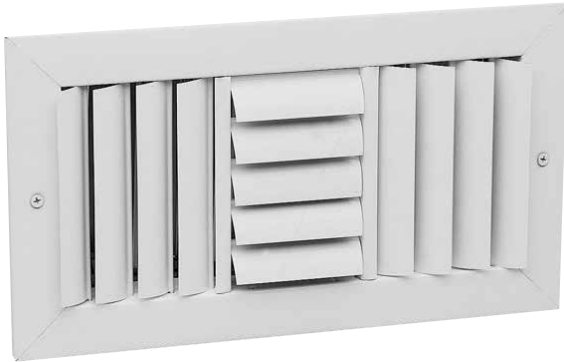
Construction — Extruded aluminum. Bright White or clear anodized finish available.



LISTED SIZE	T-BAR	OVERALL	FINISH
22 X 10	24 X 12	23-3/4 X 11-3/4	WHT
22 X 22	24 X 24	23-3/4 X 23-3/4	WHT OR CLR
46 X 22	48 X 24	47-3/4 X 23-3/4	WHT OR CLR

Series 290

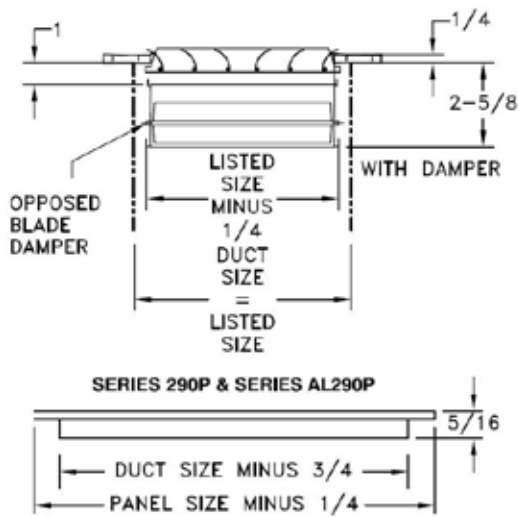
Adjustable Curved-Blade Ceiling Diffuser with or without Damper



Design — Provides one-, two-, three- or four-way air diffusion. Also available in two-way corner blow (specify 292C). Used in ceiling installations, the curved blade provides optimum ceiling effect, resulting in longer throws. Exact air placement obtained by simple adjustment of blade setting.

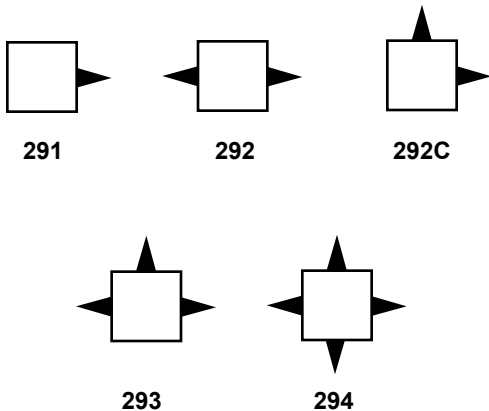
Features — Curved-blade design provides maximum air diffusion flexibility. Tension spring interwoven on blade pivot permits positive blade setting. Also available with multi-louver damper (290ML) or opposed-blade damper (290OBD). Opposed-blade damper is screwdriver-operated. 1" blade spacing.

Construction — Steel only.
Bright White finish standard.

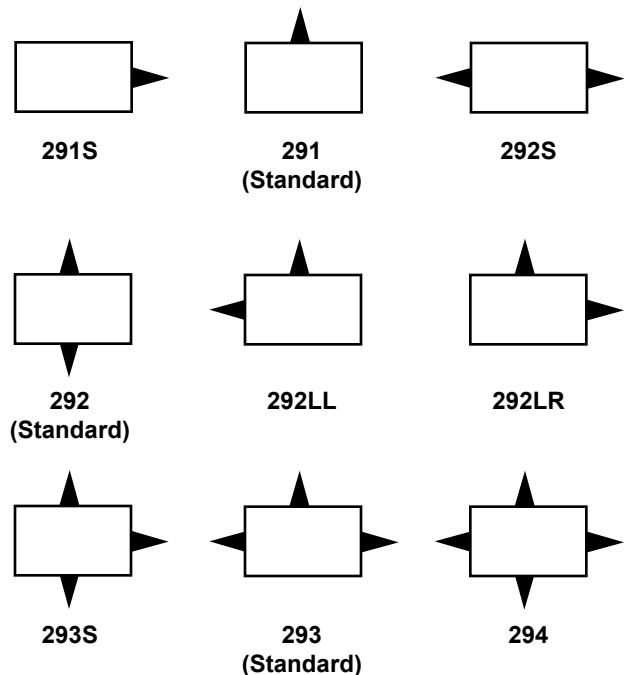


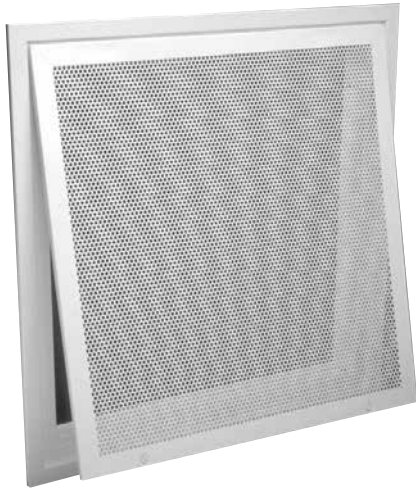
Patterns As Seen From Back of Diffuser

SQUARE



RECTANGULAR





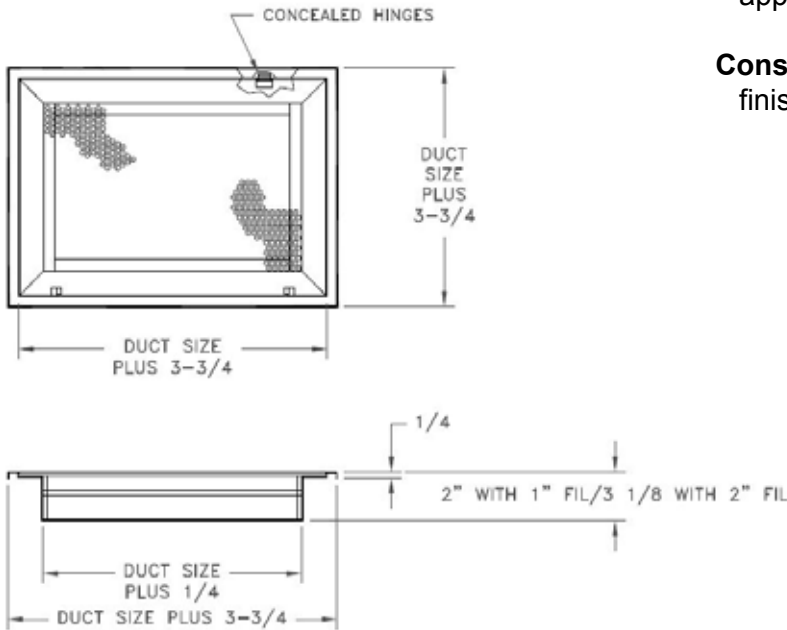
Model 12PFF

Perforated Diffuser Face with Filter Frame

Design — Filter frames are for use in all types of air-conditioning systems. Acts as a holder for the filter or as an access opening into small air-handling units.

Features — Perforated face, hinged parallel to the long dimension. Concealed hinge standard. Filter frame holds 1" filter. Cam-lock fastening standard, located on side opposite hinge. Number of cam-locks vary with size of frame. Also available for T-Bar applications.

Construction — Steel. Bright White finish standard.



LIGHT COMMERCIAL GRD



Model S90H or V FF

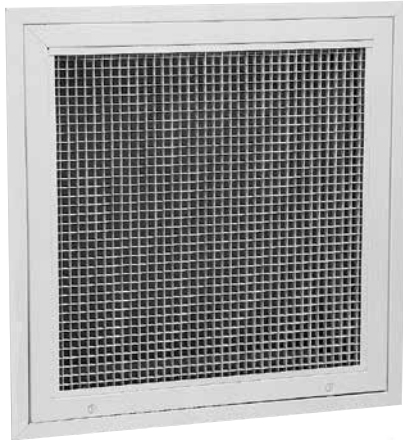
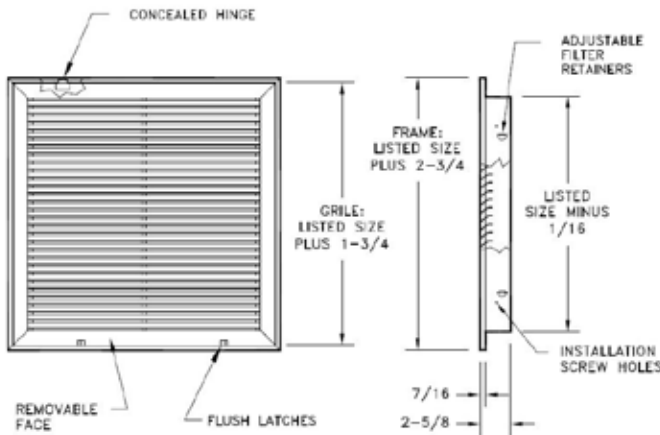
Stationary-Bar Return Grille with Filter Frame

Design — Acts as a holder for the filter and/or as an access opening into small air-handling units.

Features — Grille face is hinged parallel to blades for easy access to filter. Knurled knob fastening standard on aluminum. Number of fastenings vary with size of unit. Also available for T-Bar applications. 35° deflection.

Construction — Steel. Bright White finish standard.

H means horizontal blades
V means vertical blades



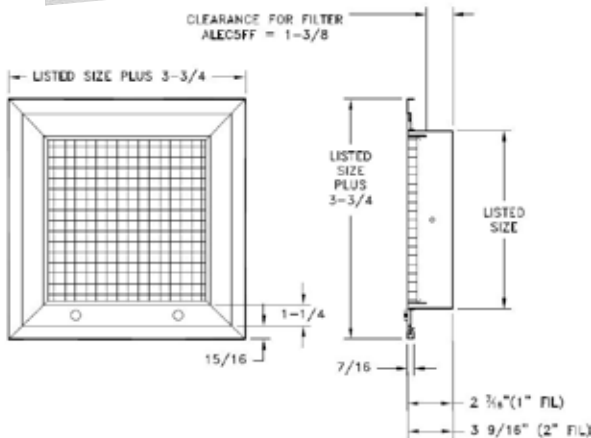
Model ALEC5FF

Eggcrate Return Exhaust Grille with Filter Frame

Design — Model ALEC5FF is designed for use in all types of air-conditioning systems.

Features — Acts as a holder for the filter or as an access opening into small air-handling units. Core is 1/2" x 1/2" x 1/2" squares. Also available for T-Bar applications.

Construction — Concealed hinge. Standard filter frame holds 1" filter. Number of thumbscrews varies with size of frame. Aluminum. Bright White finish standard.





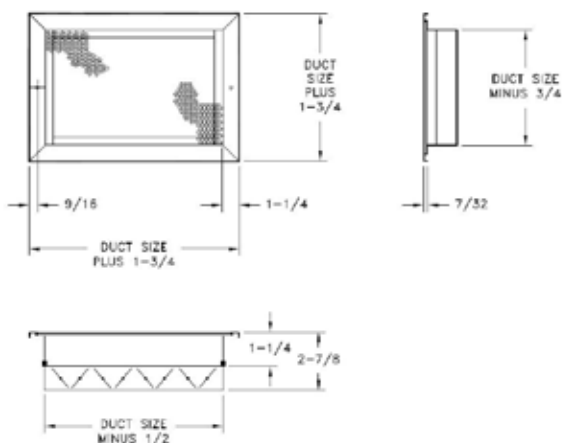
Model 12P

Perforated Diffuser Face

Design — Model 12P is a perforated return diffuser.

Features — Perforated diffuser face with frame. Optional opposed-blade damper (OBD) is screwdriver-operated.

Construction — Steel. Bright White finish standard.



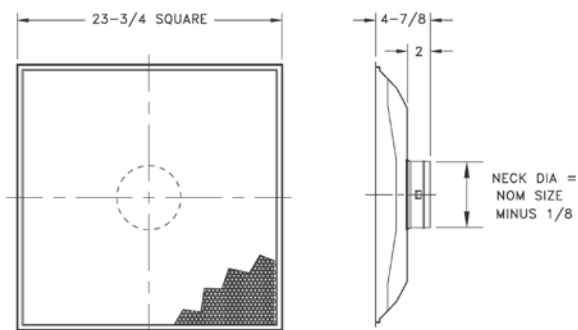
Model 1230

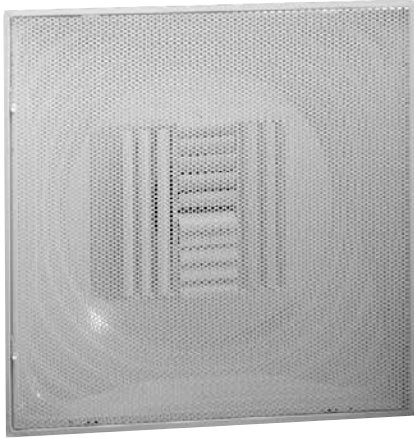
Perforated Return Diffuser with Round Neck

Design — Model 1230 is a matching return unit for supply models 1234 and 1235.

Features — Unique 2" high round collar makes flex duct connections simple and fast. Removable face interchangeable with supply units. Available in 6", 8", 10", 12", 14", 16" and 18" round neck sizes on a 24" x 24" panel.

Construction — Steel. White face with white back standard, or white face with black back optional.





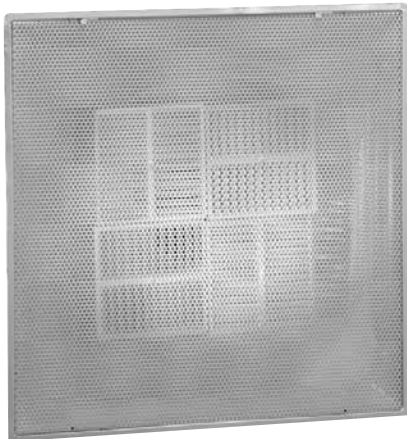
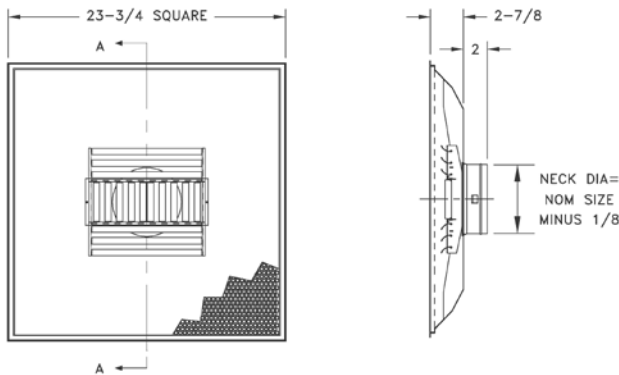
Model 1234

Perforated Supply
Lay-In T-Bar Round Neck with
Adjustable, Curved-Blade
Core

Design — Model 1234 removable face, round neck, perforated diffusers.

Features — Simple adjustment of air pattern for vertical or horizontal deflection for one-, two-, three- or four-way discharge is accomplished without altering diffuser's appearance. Hinged/latched face for easy access. Unique 2" high collar permits easy flex connection.

Construction — Steel. White face with white back standard, or white face with black back optional.



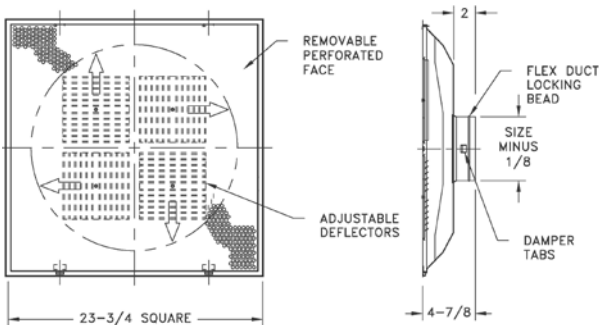
Model 1235

Perforated Supply with
Removable Face
Lay-In T-Bar Round Neck

Design — Model 1235 removable face, round neck, perforated diffusers.

Features — Removable face and stamped deflector pattern controllers, which provide efficient air performance. Six different air patterns can be achieved by adjusting deflectors through perforated face or by removing face. Hinged/latched face for easy access.

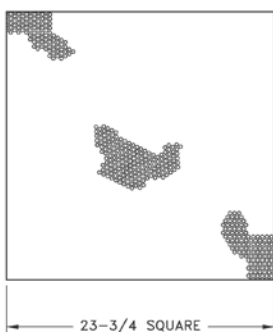
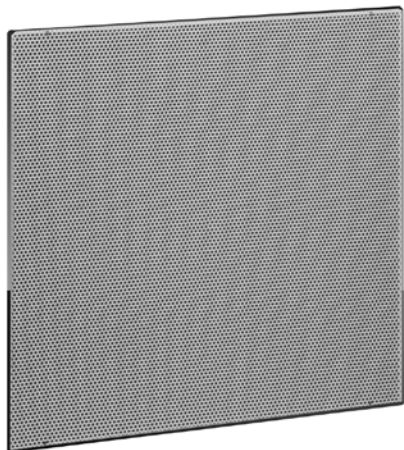
Construction — Steel. Bright White finish standard.



FACE DETAIL

PERFORATED - 3/16 INCH HOLES
ON 1/4 INCH
STAGGERED CENTERS,
51% FREE AREA





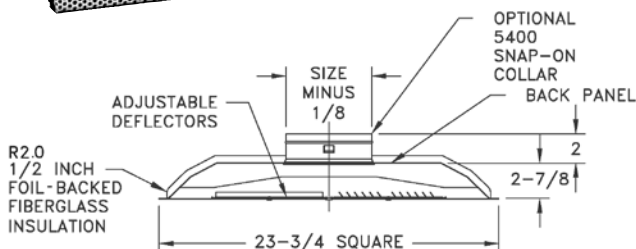
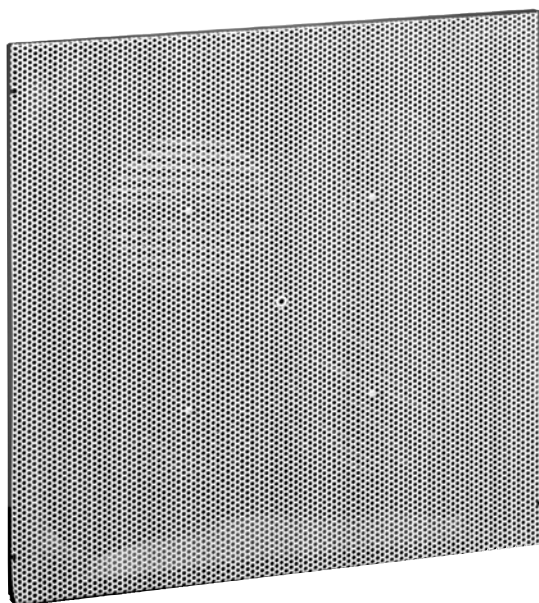
Model 1274

Perforated Return
Turned-Up Panel Only

Design — Model 1274 is a perforated turned-up panel (only) designed for lay-in T-Bar ceilings.

Features — Perforated face with turned-up edges. Sizes available: 12x24, 24x24, 24x48.

Construction — Steel. Bright White finish standard.



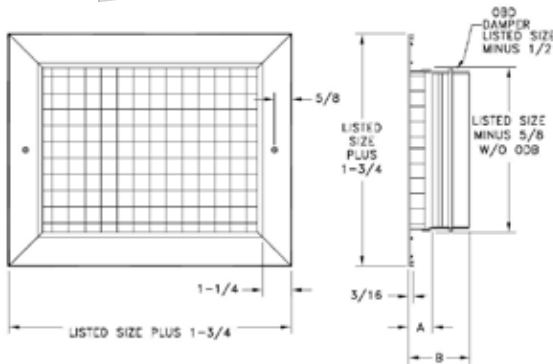
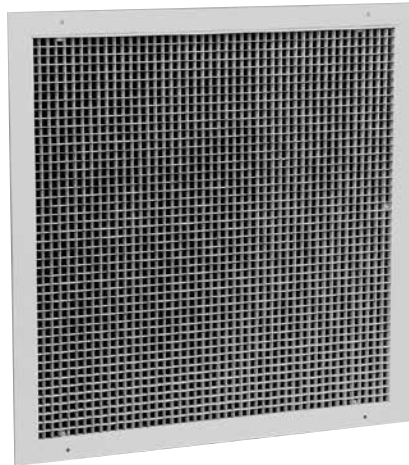
Model 4250

Perforated Supply Diffuser

Design — Model 4250 perforated diffusers are designed for lay-in T-Bar ceilings applications.

Features — Fixed face attached to a duct connection collar. Model R22 Butterfly Damper optional. Available in various sizes.

Construction — Steel. Bright White standard finish.



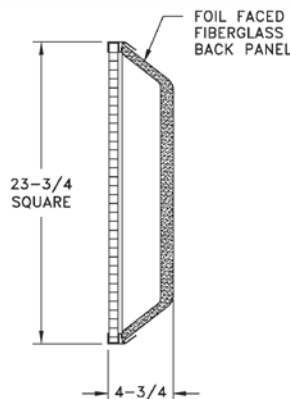
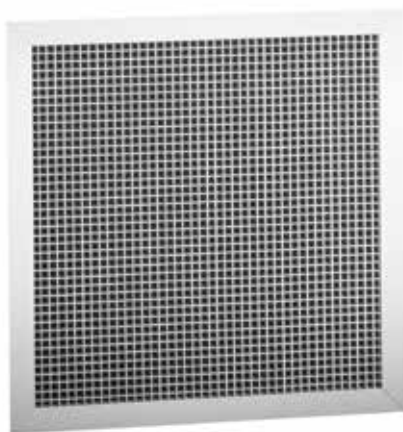
Model ALEC

Eggcrate Exhaust Grille

Design — Models ALEC5, ALEC10 and ALEC15 are return air grilles with aluminum square pattern grid, providing maximum free area of 90% and minimum see-through.

Features — Model ALEC5 has a core of 1/2" x 1/2" x 1/2". Model ALEC10 has a 1" x 1" x 1" core. Model ALEC15 has a 1/2" x 1/2" x 1" core. For T-Bar order as ALEC5 22x22 Wht Lay-in NSH.

Construction — Aluminum construction. Bright White finish standard. Steel T-Bar panel mount option.



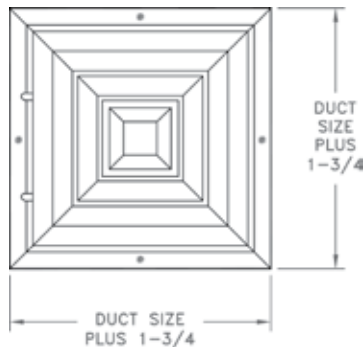
Model ALEC5 R4.2

Return Air, Eggcrate Grille with Insulated Back for T-Bar

Design — Return air grilles with aluminum square pattern grid, providing maximum free area of 90% and minimum see-through.

Features — Model ALEC5 has a core of 1/2" x 1/2" x 1/2". Order as ALEC5 R4 22x22 Wht Lay-in NSH.

Construction — Aluminum construction. Bright White finish standard.



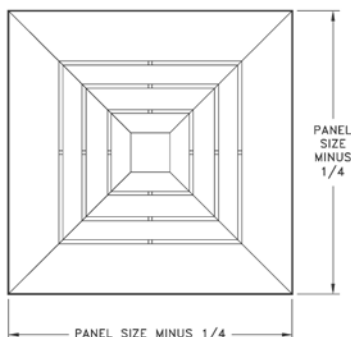
Series 1102

Step-Down Ceiling Diffuser

Design — Series 1100 step-down ceiling diffusers have a stationary four-way pattern that provides maximum air diffusion with minimum resistance.

Features — Model 1102 has a multi-louver damper for positive shutoff when required. Surface mount only.

Construction — Steel. Bright White finish standard.



Model 1121

Step-Down Ceiling Diffuser for Lay-In T-Bar Ceilings

Design — Series 1121 are step-down ceiling diffusers with a panel for 24" x 24" lay-in T-Bar ceilings.

Features — Model 1121 is a step-down ceiling diffuser without a damper.

Construction — Steel. Bright White finish standard.

Series 1400, AL1400

Square/Rectangular Ceiling Diffusers



Design — Lima 1400s are high capacity ceiling diffusers. Because they maintain an unbroken horizontal flow pattern from maximum CFM down to minimum CFM, they are an excellent choice for variable air volume applications.

Features — The 1400 Series snap-in core is held in place by two tabs that slide into the outer frame. The other side is secured by a positive lock arrangement. Core is easily removed by releasing lock and removing the core. Optional ALOBD14 available in three-inch increments from 6 x 6. See page 71

Accessories for AL1400 Series:

Model ALOBD14

Aluminum Opposed-Blade Damper in 3-inch increments

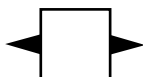
Patterns as seen from back of diffuser

S Q U A R E

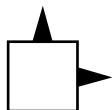
R E C T A N G U L A R



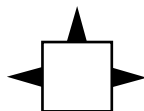
1401
One-way



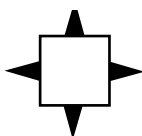
1402
Two-way



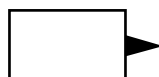
1402D
Two-way diagonal



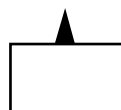
1403
Three-way



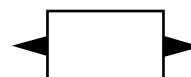
1404A
Four-way



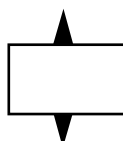
1401S
One-way short



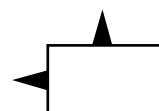
1401L
One-way long



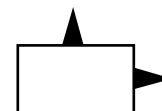
1402S
Two-way short



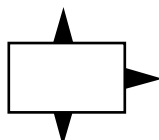
1402L
Two-way long



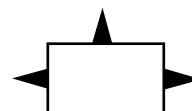
1402DLL
Two-way diagonal
long left



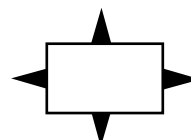
1402DLR
Two-way diagonal
long right



1403L
Three-way long



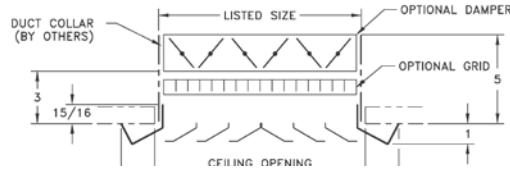
1403S
Three-way short



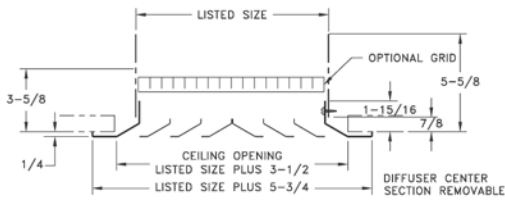
1404B
Four-way rectangular

1400 and AL1400 Frame Styles

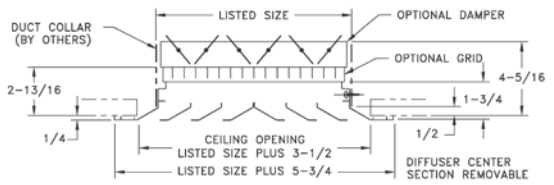
**Aluminum
Surface Mount V — Frame 31**



**Surface Mount Flat — Frame 32*
Square or Rectangular Neck**

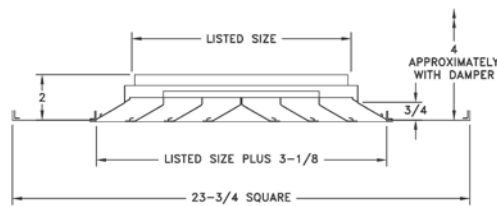


**Surface Mount Flat — Frame 32*
Square or Rectangular Neck**



*An 18 x 18 fits into a 2' x 2' T-Bar ceiling.

T-Bar Lay-In — Frame 33



LIGHT COMMERCIAL GRD



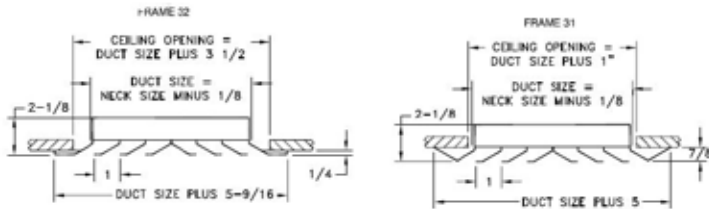
Model 1444 AL1444

Modular Core Supply or Return Diffuser - Frame 31, 32, 33

Design — Models 1444 and AL1444 are square or rectangular modular supply or return diffusers. They have a snap-in modular core that provides one-, two-, three- or four-way pattern deflections.

Features — Choice of three frame styles. V-shaped Frame 31, Flat Frame 32 or Frame 33 for T-Bar Ceilings. Available with or without opposed-blade damper (OBD) unmounted. Damper is operated with screwdriver through face after removing a module. Neck sizes 6" through 20" square.

Construction — Steel or Aluminum. Bright White finish standard.



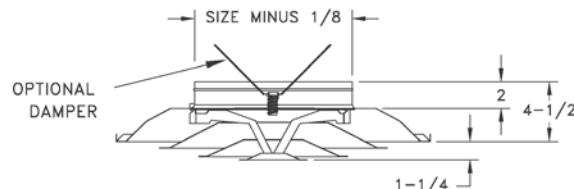
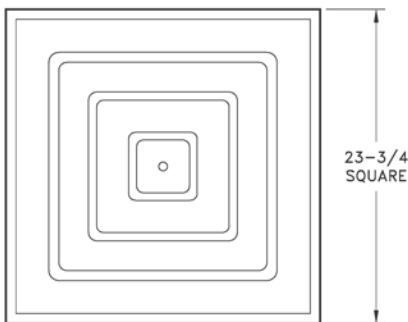
Model 1500

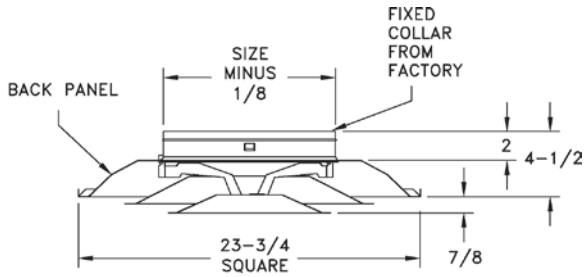
Step-Down Ceiling Diffuser

Design — Provides high air volume delivery in a four-way air diffusion pattern.

Features — Four-cone design, fixed core, optional damper control access (damper ordered separately), and 2" high collar for easy flex connections. Collar sizes available: 6", 8", 10", 12", 14". Utilizes the R22 Butterfly Damper.

Construction — All-steel construction. Formed steel back panel. Bright White finish standard.





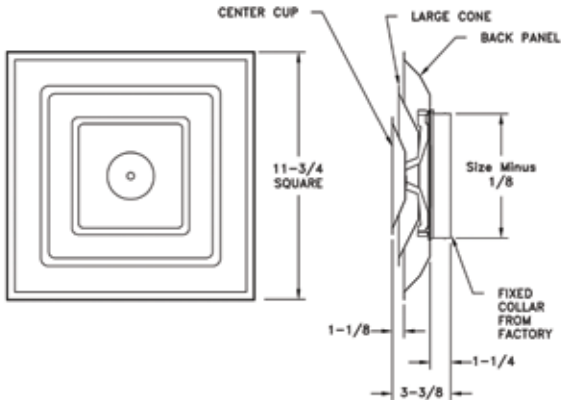
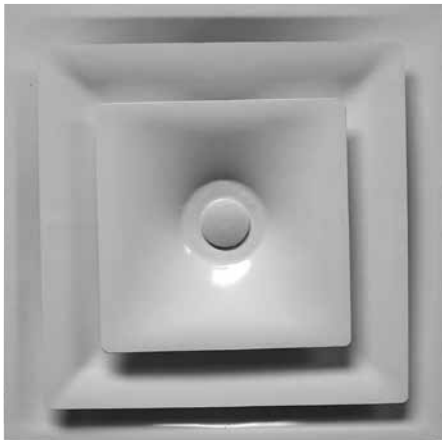
Model 1520 AL1520

Step-Down Ceiling Diffuser

Design — Provides high air volume delivery in a four-way air diffusion pattern.

Features — Three-cone design, fixed core, optional damper control access (damper ordered separately), and 2" high collar for easy flex connections. Collar sizes available: 6", 8", 10", 12", 14". Utilizes the R22 Butterfly Damper.

Construction — Steel or aluminum construction. Formed steel back panel. Bright White finish standard.



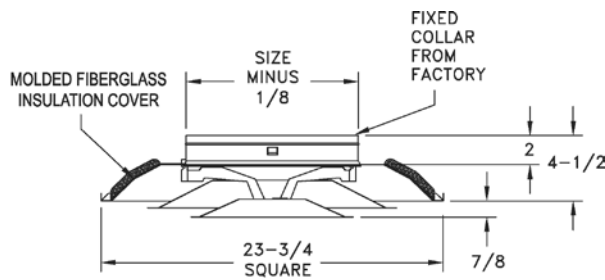
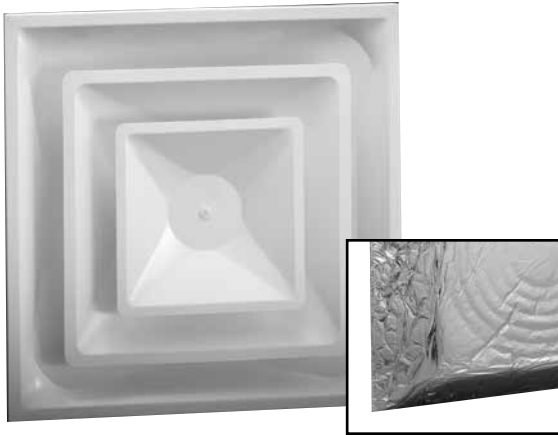
Model 1520-12

Step-Down Ceiling Diffuser

Design — Provides 360-degree air volume delivery in a four-way air diffusion pattern.

Features — Three-cone design, fixed core, optional damper control access (damper ordered separately), and 1-1/4" high collar for easy flex connections. Collar sizes available: 6", 7", 8". Use with AL10PF plaster frame for surface-mount applications. Uses R-42 radial damper, sold separately.

Construction — All-steel construction. Formed steel back panel. Bright White finish standard.



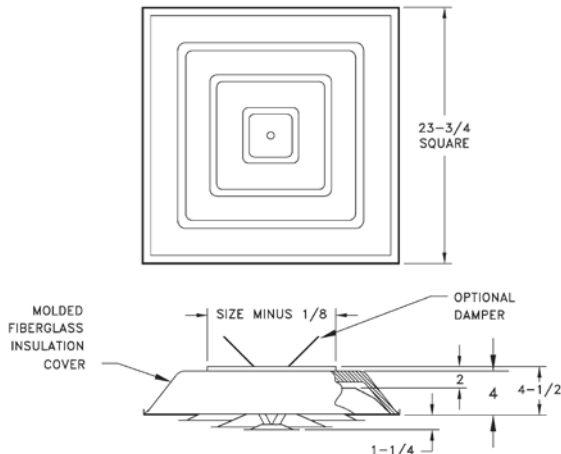
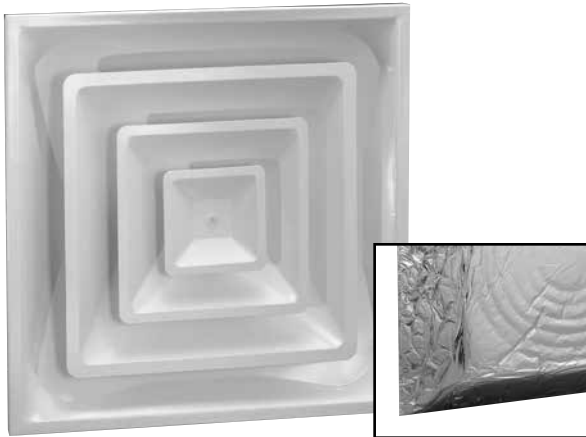
Model 1530

Insulated Step-Down Ceiling Diffuser

Design — Provides high air volume delivery in a four-way air diffusion pattern.

Features — Three-cone design, fixed core, optional damper control access (damper ordered separately) and 2" high collar for easy flex connections. Molded fiberglass back meets or exceeds the following: ASTM E84 Flame and Smoke Test, UL181 Erosion and Impact Test, "R" value of 6. Collar sizes available: 6", 8", 10", 12", 14".

Construction — All-steel construction. Formed steel back panel. Bright White finish standard.



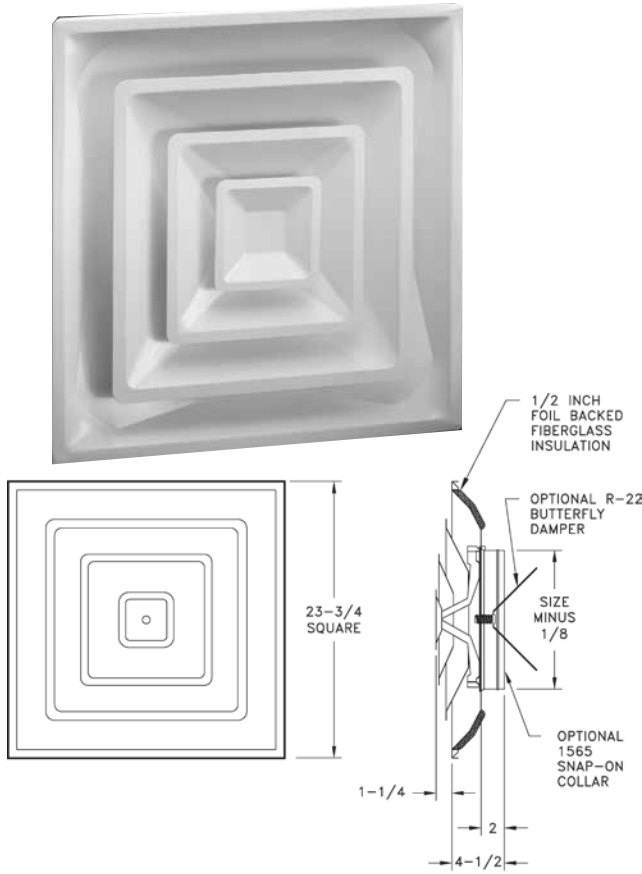
Model 1540/1540D

Insulated Step-Down Ceiling Diffuser

Design — Provides high air volume delivery in a four-way air diffusion pattern.

Features — Four-cone design, fixed core, optional damper control access (damper ordered separately), and 2" high collar for easy flex connections. Molded fiberglass back meets or exceeds the following: ASTM E84 Flame and Smoke Test, UL181 Erosion and Impact Test, "R" Value of 6. Collar sizes available: 6", 8", 10", 12", 14". Model 1540D available with butterfly damper installed.

Construction — All steel construction. Formed steel back panel with molded fiberglass insulation cover. Bright White finish standard.



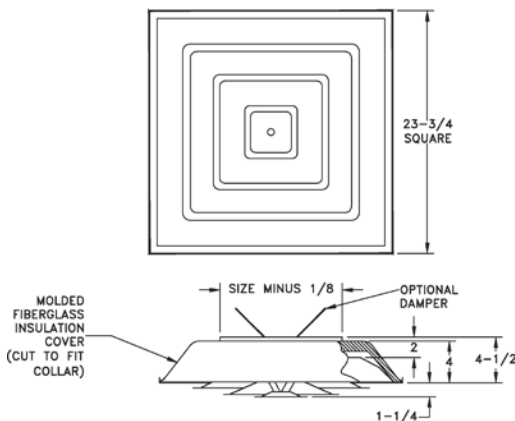
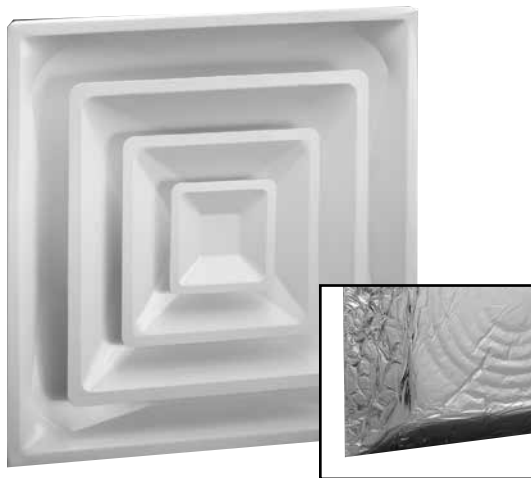
Model 1560

Step-Down Ceiling Diffuser

Design — Provides 360-degree high air volume delivery in a four-way air diffusion pattern.

Features — Four-cone design with fixed core and formed back panel. Fiberglass insulation blanket with foil vapor barrier to minimize condensation. Comes prescored to accommodate collar size desired. Accepts unique 2" high snap-in collar (Model 1565). Collar sizes available: 6", 8", 10", 12" (1560-14 collar factory-installed). Utilizes butterfly damper (Model R22) inserted in collar.

Construction — All-steel construction. Formed steel back panel. Bright White finish standard.



Model 1570

Insulated Step-Down Ceiling Diffuser

Design — Provides high air volume delivery in a four-way air diffusion pattern.

Features — Four-cone design with fixed core and formed back panel. Molded fiberglass back meets or exceeds the following: ASTM E84 Flame and Smoke Test, UL181 Erosion and Impact Test, "R" value of 6. Accepts unique 2" high snap-in collar (Model 1565) with use of 1565PP push pins.

Construction — All-steel construction. Formed steel back panel. Bright White finish standard.



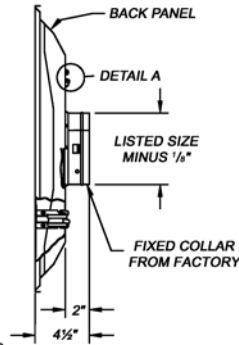
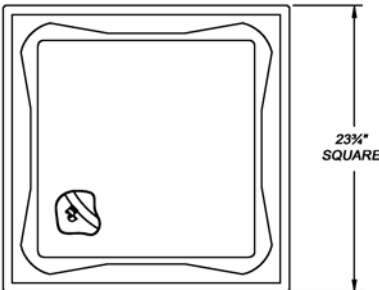
Model 1580/1590

T-Bar Plate Diffuser

Design — Model 1580/1590 has an aesthetically appealing, single-face plate design.

Features — Model 1580/1590 features a 360-degree air diffusion pattern, a detachable face plate, and a 2" fixed collar. The Model 1590 has an R6 molded fiberglass back, which provides effective insulation of the steel back panel.

Construction — All steel. Bright White finish.



Removing Face Plate

1. Remove black push pins from hook.
2. Push the face plate towards the back panel. This will disengage the hooks from the backside panel slots (*Detail A*).
3. Rotate the face plate counterclockwise, and pull plate away from back panel and hooks through the slots.



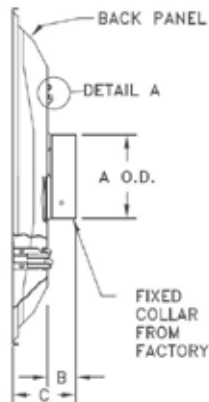
Model AL1580/1580-12

T-Bar Plate Diffuser

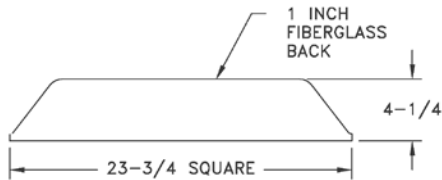
Design — Model AL1580/1580-12 has an aesthetically appealing, single-face plate design.

Features — Model AL1580 features a 360-degree air diffusion pattern, with a detachable face plate. It is constructed of 100% aluminum allowing for MRI applications. The Model 1580-12 is constructed of heavy gauge steel for 1' x 1' Tbar grids.

Construction — AL1580 All Aluminum.
1580-12 All Steel. Bright White Finish



Tbar grid	round duct size	B	C
12 x 12	6, 7	1-1/8"	2-1/4"
	8	1-1/4"	2-3/8"
24 x 24	6,8	1-1/4"	3-3/4"
	10,12,14	1-3/8"	3-7/8"



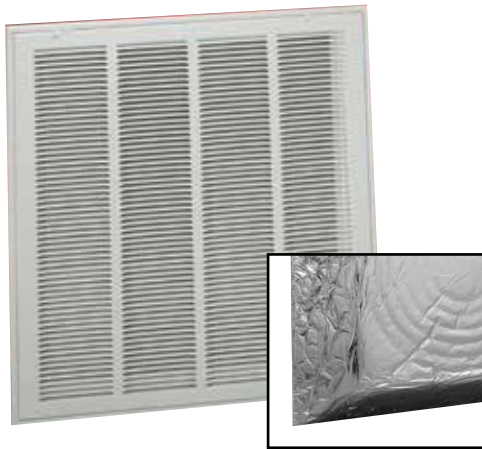
Fiberglass Plenum-Back

For T-Bar Lay-In (24 x 24)

Design — Molded fiberglass backs with a deep plenum cavity to improve performance.

Features — One-inch thick fiberglass covers entire T-Bar opening with an “R” value of 4.2, 6 and 8. Insulation absorbs sound and accepts standard spin-in tab collars supplied by others. Tested in compliance with surface-burning characteristics (ASTM E-84) and erosion test (UL 181). Tested in accordance with ASHRAE Standard 70-1991 and ADC regulations.

Available in R4.2, R6, and R8

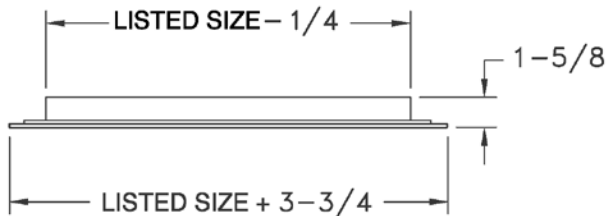


Model 1280

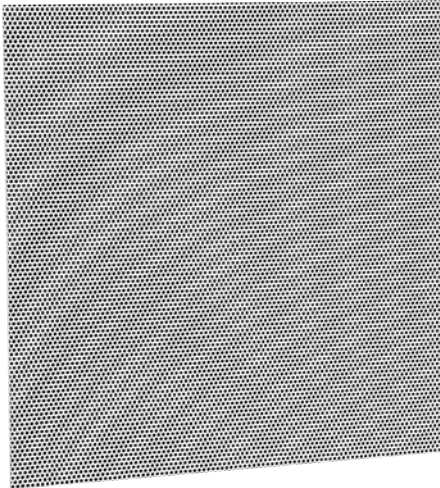
Lanced-Face T-Bar Filter Grille

Design — Removable flush face design that can be installed in any direction. 1/3” blade spacing.

Features — Models 1280 R4 and 1280 R6 feature molded fiberglass insulated backs. Flush face design with extended margins and swing style latches for easy access to filter.



Construction — Steel. Bright White face with insulated back.



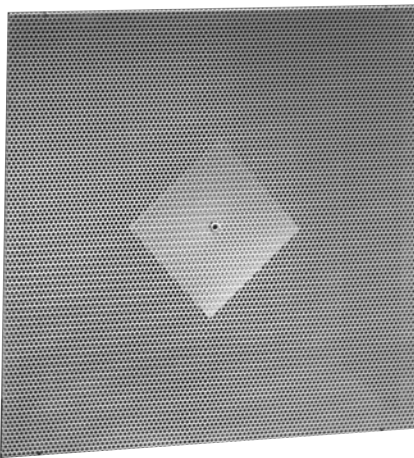
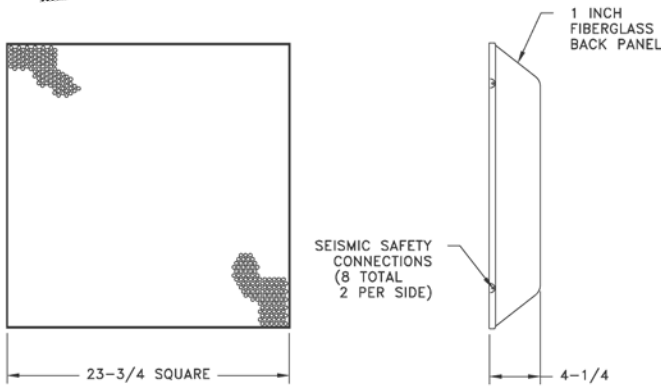
Model 4230

Perforated Return

Design — Matching perforated return for 4235 Supply.

Features — Utilizes molded fiberglass plenum. R6 insulation available.

Construction — Steel. Bright White face with insulated back.



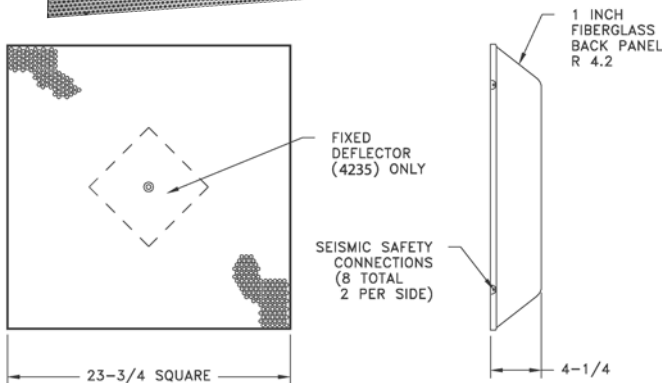
Model 4235

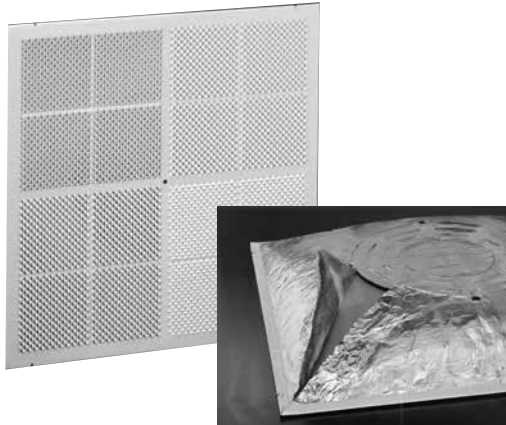
Perforated Supply

Design — Model 4235 Perforated Supply Diffuser with stamped deflector pattern controller. Perforated steel panel has 3/16" diameter holes on 1/4" staggered centers.

Features — Utilizes molded fiberglass plenum. R4 insulation standard. R6 available.

Construction — Steel. Bright White face with insulated back.





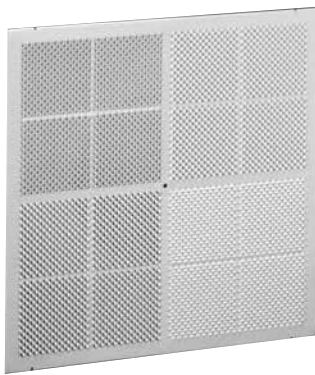
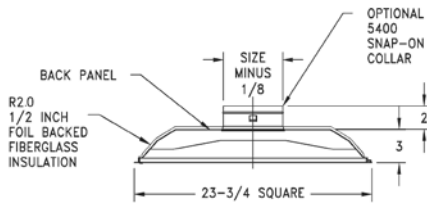
Model AL 440

Stamped Face Supply Diffuser

Design — Unique, aluminum face design provides an exceptional air diffusion pattern for high performance. Available in four-way through one-way or two-way corner.

Features — Air is distributed in thin layers along ceiling surface, allowing optimum dispersion of conditioned air.

Construction — Aluminum. Bright White face with insulated back.



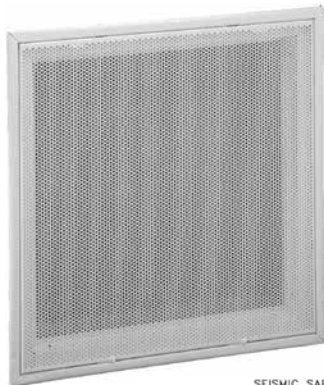
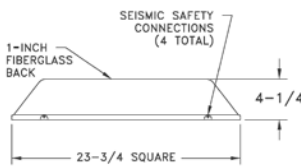
Model AL4240

Four-Way Stamped-Face Ceiling Supply

Design — Unique, aluminum, four-way face design provides an exceptional air diffusion pattern for high performance.

Features — Air is distributed in thin layers along ceiling surface, allowing optimum dispersion of conditioned air.

Construction — Aluminum. Bright White face with insulated back.



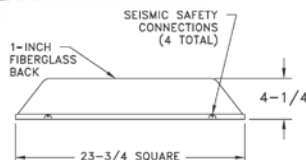
Model 12PFFI

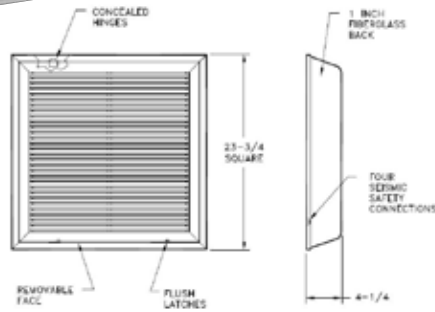
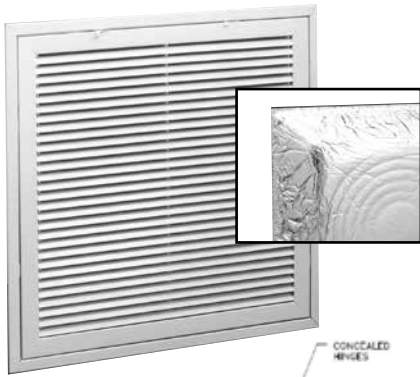
Filter Frame, Perforated Return with Concealed Hinge

Design — Model 12PFFI is a filter frame perforated return.

Features — Removable perforated face. Concealed hinge. Includes molded fiberglass back with an R4.2 and R6 insulation value.

Construction — Steel. Bright White finish standard.





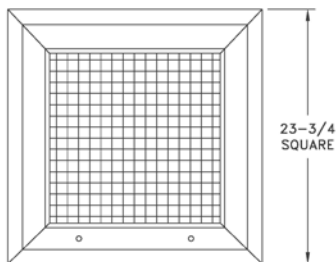
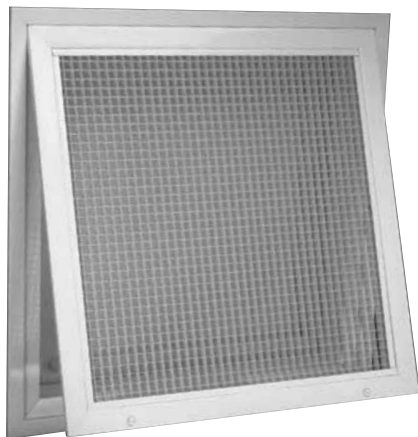
Model S90HFFI

Filter Frame Fixed-Bar Return with Insulated Back for T-Bar Lay-In

Design — Model S90HFFI is a filter frame fixed-bar return.

Features— Fixed-bar design. Concealed hinges and cam lock latches. Removable face.

Construction— Steel. Bright White finish standard.



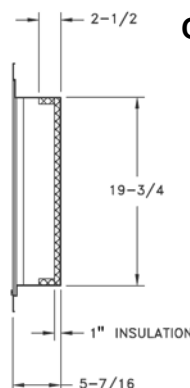
Model 4205FF

Eggcrate Return Filter Grille Plenum-Backed, T-Bar Lay-In

Design — Eggcrate return filter grille with framed front panel.

Features — Flush cam-lock face retainers (2). 1/2" x 1/2" x 1/2" aluminum core. Hinged. R4.2 insulation.

Construction — Aluminum eggcrate with steel frame construction. Bright White finish standard.



Model 1600

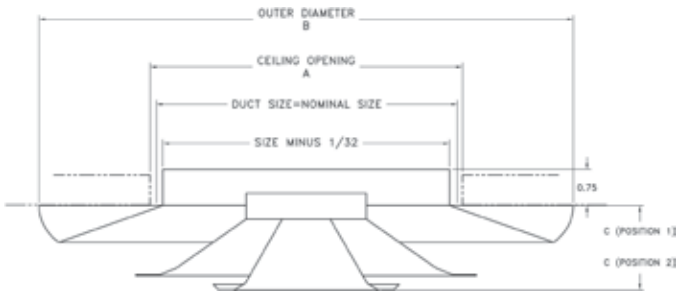
Commercial Round Ceiling Diffuser



Design — Model 1600 is a three-cone ceiling diffuser, which provides 360° maximum air diffusion efficiency.

Features — Model 1600 has a five-step, manual ratchet positioning core, which allows air pattern to be adjusted from full horizontal flow to full vertical flow. Optional Damper (Model R52 duct-mount only) is also available, and must be ordered separately.

Construction — Steel. Bright White finish standard.



Listed Size	A	B	C Pos. 1	C Pos. 2
6	6-1/2	11-1/8	1-1/8	1-3/4
8	8-1/2	14-3/4	1-1/2	2-1/8
10	10-1/2	18-1/4	2-1/8	2-7/8
12	12-1/2	22	2-3/8	3-1/8
14	14-1/2	26	2-5/8	3-3/8
16	16-1/2	29	3-1/4	4
18	18-1/2	33-1/2	3-7/8	4-3/4



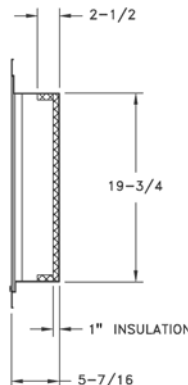
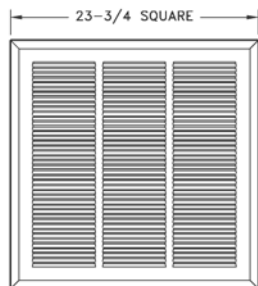
Model 4260FF

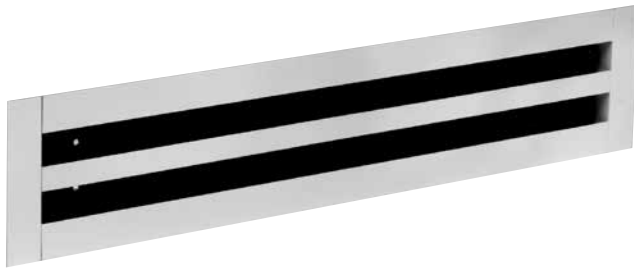
Stamped-Face Return Filter Grille - Plenum-Backed, T-Bar Lay-In

Design — Stamped-face return filter grille.

Features — Flush cam-lock face retainers (2). 1/2" blade spacing. Hinged. R4.2 insulation standard, R6 optional.

Construction — Steel construction. Bright White finish standard.





Series AL2000

Linear Slot Diffuser

Design — Adjustability of pattern-control blades allows various airflow patterns to be achieved as desired. A reduction in static pressure is obtained through the flexibility in movement of the pattern control blade. The unit can be installed easily in ceiling or sidewall.

Features — 1/2", 3/4", 1" slot widths available from 1 to 10 slots. Units are provided in lengths from 1 foot to 6 feet. Butt-joint alignment strips provided for continuous runs. Removable end caps available. Unit can be used as supply or return. Can be installed in most ceilings, using one of five fastening methods.

Construction — Extruded aluminum with adjustable deflectors. Bright White with black blades or clear anodized with black blades. Specify fastening method.

How to Order Series AL2000 (Example: AL20 50 1 04 B 2 E1 24 WHT)

AL20	Type	Style	No. of Slots	Margin	Mounting Style	End Caps	Length	Finish
			01 to 08	B - 3/4" E - 1 1/8" F - 1 1/8" w/ screw holes		E1 - One end E2 - Both ends 00 - None	Min. 12" Max 999"	CLR WHT
	50 - 1/2" Slot 75 - 3/4" Slot 10 - 1" Slot	1 - Diffuser only 2 - Diffuser w/ pattern controller		Note: Margins ordered without mounting frame require inside hemmed duct for installation.	B0 - Diffuser only E1 - Hanger Bracket E2 - Mounting frame E0 - Diffuser only F0 - Screw holes in margin			

Note: #1 mounting style requires inside hemmed duct for hanger bracket.

How to Order Mitered Corners (Example: AL20 75 C 01 F 1 MC90 C WHT)

MITERED CORNERS		AL20	Type	C	No. of Slots	Margin	Mounting Style	MC90	Miter Type	Finish
		50 75 10			01 to 08	B - 3/4" E - 1 1/8" F - 1 1/8" w/ screw holes	B0 - Diffuser only E1 - Hanger bracket E2 - Mounting frame E0 - Diffuser only F0 - Screw holes in margin		C - Ceiling SI - Sidewall inside SO - Sidewall outside	CLR WHT

Note: #1 mounting style requires inside hemmed duct for hanger bracket.

Series AL2000 Slot Diffusers

Fastening Methods

LIGHT COMMERCIAL GRD

MARGIN STYLE	SLOT	DIFFUSER ONLY	with Hanger Bracket	with No. 2 installation frame
	1" 3/4" 1/2"	BO 		
	1" 3/4" 1/2"	EO 	E1 	E2
	1" 3/4" 1/2"	FO 		

Note: When using hanger brackets, E margin is recommended.

L margin is for narrow regress T-Bar ceiling applications.

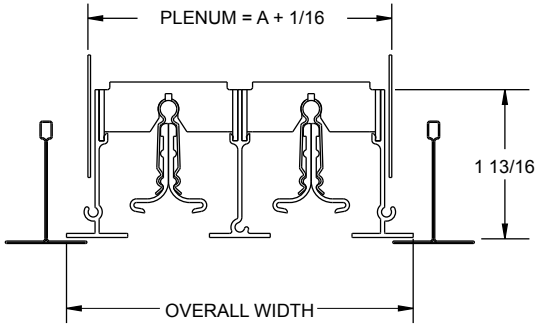
SPIRAL DIFFUSERS



STYLE B0

Also for T-Bar applications

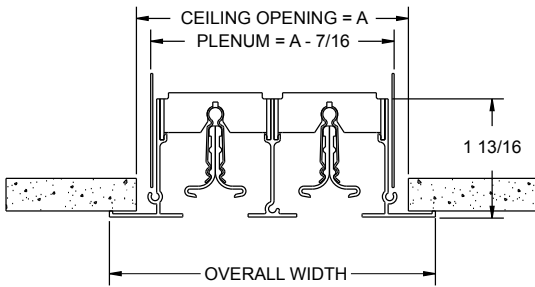
Order 22³/₄" or 46³/₄" lengths with End Caps.



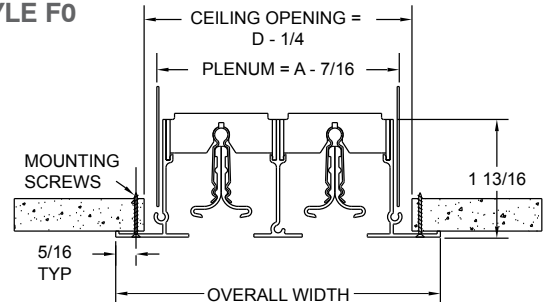
STYLE E0

Also for T-Bar applications

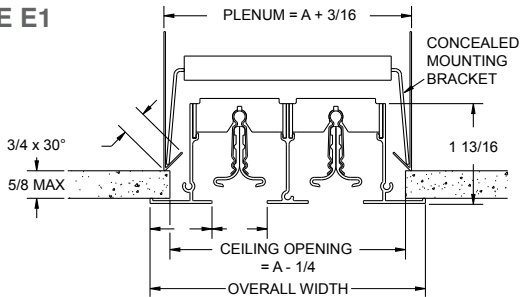
For E0, order 22" and 46" lengths with End Caps.



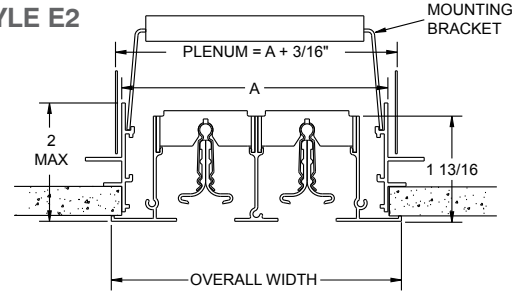
STYLE F0



STYLE E1



STYLE E2



LIGHT COMMERCIAL GRD

Style B0

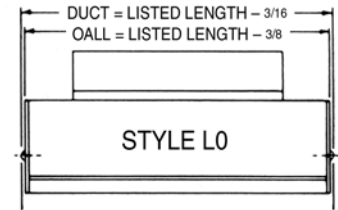
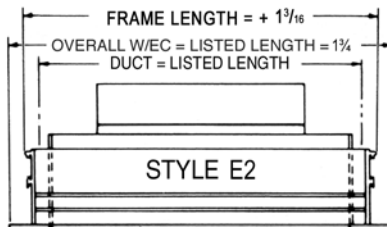
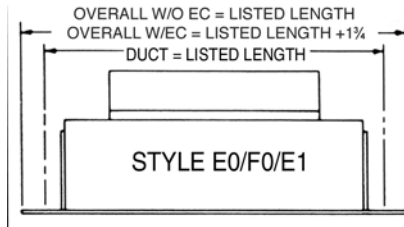
Dimension	Type	Number of Slots								Duct Width	Overall Width
		1	2	3	4	5	6	7	8		
A	50	1 3/8	2 5/8	3 7/8	5 1/8	6 3/8	7 5/8	8 7/8	10 1/8	A + 1/16	A + 5/8
	75	1 5/8	3 1/8	4 5/8	6 1/8	7 5/8	9 1/8	10 5/8	12 1/8	A + 1/16	A + 5/8
	10	1 7/8	3 5/8	5 3/8	7 1/8	8 7/8	10 5/8	12 3/8	14 1/8	A + 1/16	A + 5/8

Style E0/F0

Dimension	Type	Number of Slots								Duct Width	Overall Width
		1	2	3	4	5	6	7	8		
A	50	1 7/8	3 1/8	4 3/8	5 5/8	6 7/8	8 1/8	9 3/8	10 5/8	A - 7/16	A + 7/8
	75	2 1/8	3 5/8	5 1/8	6 5/8	8 1/8	9 5/8	11 1/8	12 5/8	A - 7/16	A + 7/8
	10	2 3/8	4 1/8	5 7/8	7 5/8	9 3/8	11 1/8	12 7/8	14 5/8	A - 7/16	A + 7/8

Style E1/E2

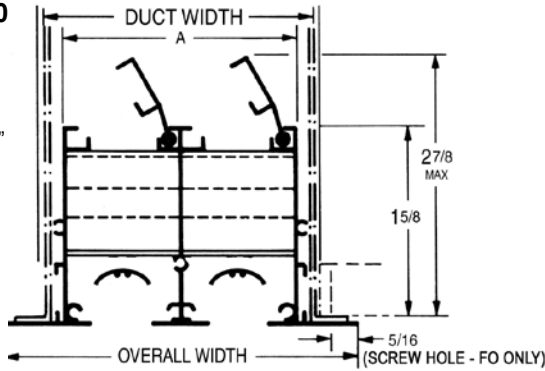
Dimension	Type	Number of Slots								Overall Width
		1	2	3	4	5	6	7	8	
A	50	2	3 1/4	4 1/2	5 3/4	7	8 1/8	9 1/2	10 3/4	A + 3/4
	75	2 1/4	3 3/4	5 1/4	6 3/4	8 1/4	9 3/4	11 1/4	12 3/4	A + 3/4
	10	2 1/2	4 1/4	6	7 3/4	9 1/2	11 1/4	13	14 3/4	A + 3/4



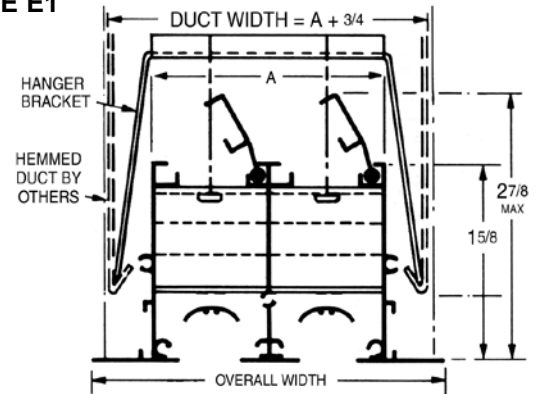
STYLE E0/F0

Also for T-Bar applications

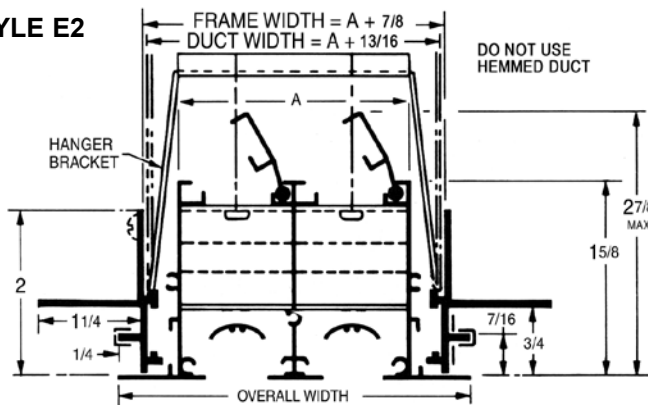
For E0, order 22" and 46" lengths with End Caps.



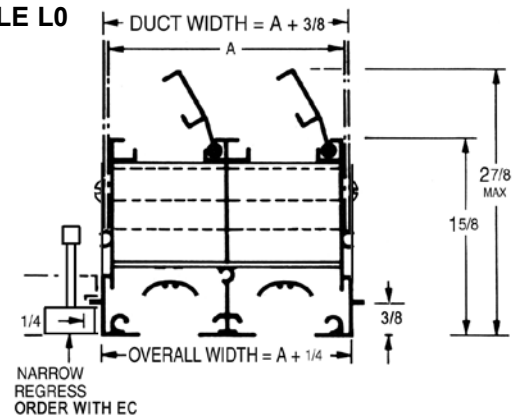
STYLE E1



STYLE E2



STYLE L0



Style E1

Dimension	Type	Number of Slots										Overall Width
		1	2	3	4	5	6	7	8	9	10	
A	50	1 1/4	2 1/2	3 3/4	5	6 1/4	7 1/2	8 3/4	10	11 1/4	12 1/2	A + 1 1/2
	75	1 1/2	3	4 1/2	6	7 1/2	9	10 1/2	12	13 1/2	15	A + 1 1/2
	10	1 3/4	3 1/2	5 1/4	7	8 3/4	10 1/2	12 1/4	14	15 3/4	17 1/2	A + 1 1/2

Style E2

Dimension	Type	Number of Slots										Overall Width
		1	2	3	4	5	6	7	8	9	10	
A	50	1 1/4	2 1/2	3 3/4	5	6 1/4	7 1/2	8 3/4	10	11 1/4	12 1/2	A + 1 1/2
	75	1 1/2	3	4 1/2	6	7 1/2	9	10 1/2	12	13 1/2	15	A + 1 1/2
	10	1 3/4	3 1/2	5 1/4	7	8 3/4	10 1/2	12 1/4	14	15 3/4	17 1/2	A + 1 1/2

Style E0/F0

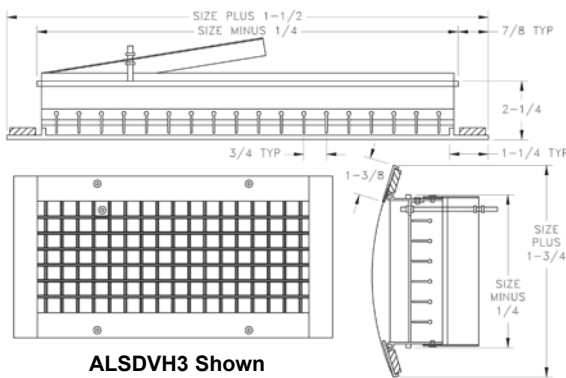
Dimension	Type	Number of Slots										Duct Width	Overall Width
		1	2	3	4	5	6	7	8	9	10		
A	50	1 1/4	2 1/2	3 3/4	5	6 1/4	7 1/2	8 3/4	10	11 1/4	12 1/2	A + 7/16	A + 1 1/2
	75	1 1/2	3	4 1/2	6	7 1/2	9	10 1/2	12	13 1/2	15	A + 7/16	A + 1 1/2
	10	1 3/4	3 1/2	5 1/4	7	8 3/4	10 1/2	12 1/4	14	15 3/4	17 1/2	A + 7/16	A + 1 1/2

Style L0

Dimension	Type	Number of Slots									
		1	2	3	4	5	6	7	8	9	10
A	50	1 1/4	2 1/2	3 3/4	5	6 1/4	7 1/2	8 3/4	10	11 1/4	12 1/2
	75	1 1/2	3	4 1/2	6	7 1/2	9	10 1/2	12	13 1/2	15
	10	1 3/4	3 1/2	5 1/4	7	8 3/4	10 1/2	12 1/4	14	15 3/4	17 1/2



* Size restrictions apply.
See price list for sizes and ordering information.



ALSDVH3 Shown

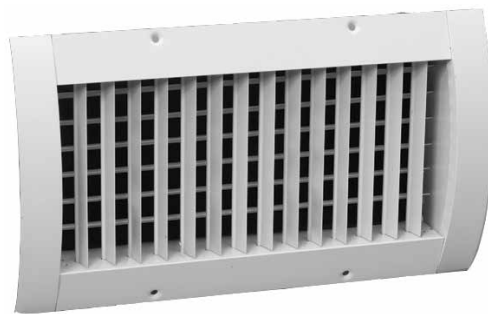
Model ALSDV

Single-Deflection Diffuser

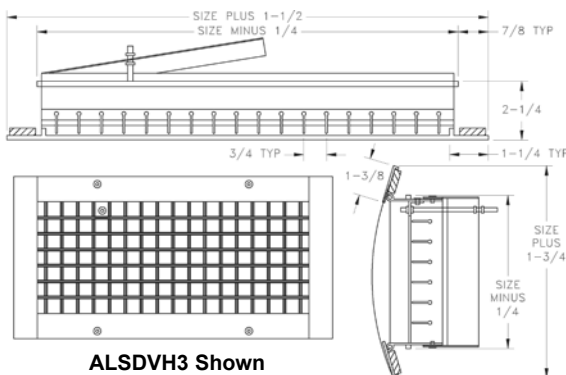
Design — Model ALSDV is made exclusively for quick, easy mounting on round metal ductwork.

Features — A single row of individually adjustable blades for deflection control. Optional face adjustable scoop to direct airflow. Includes gasket.

Construction — Aluminum. Bright White or Clear Anodized finish standard. Counter-sunk screw holes.



* Size restrictions apply.
See price list for sizes and ordering information.



ALSDVH3 Shown

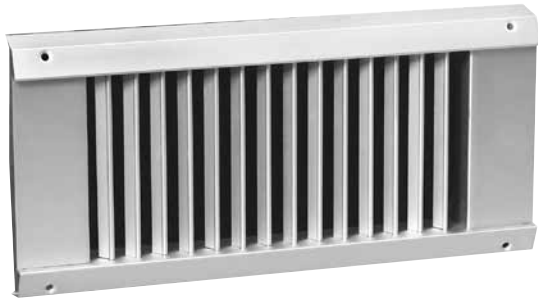
Model ALSDVH

Double-Deflection Diffuser

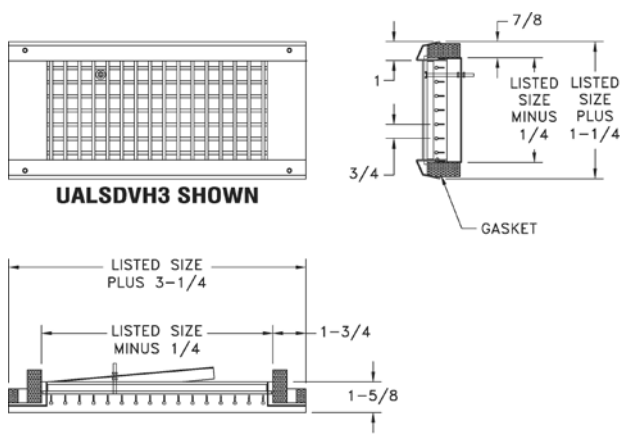
Design — Model ALSDVH is made exclusively for quick, easy mounting on round metal ductwork.

Features — Two rows of individually adjustable blades for horizontal and vertical deflection control. Optional face adjustable scoop to direct airflow. Includes gasket.

Construction — Aluminum. Bright White or Clear Anodized finish standard. Counter-sunk screw holes.



* Size restrictions apply.
See price list for sizes and ordering information.



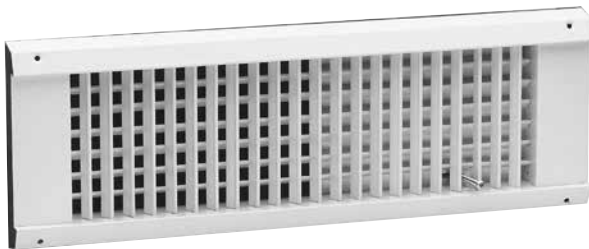
Model UALSDV

Universal Single-Deflection Diffuser

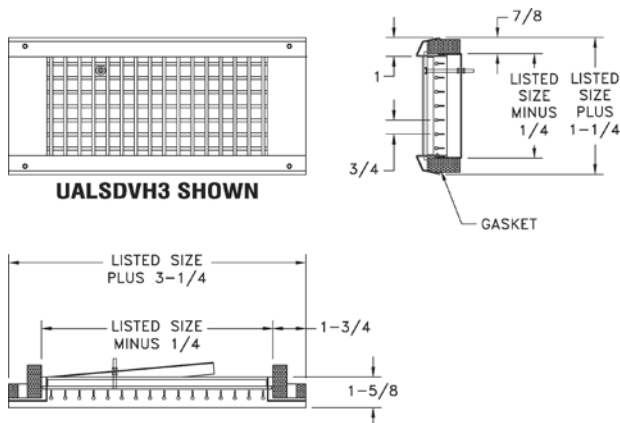
Design — Model UALSDV is made exclusively for quick, easy mounting on round metal ductwork.

Features — A single row of individually adjustable blades for deflection control. Optional face adjustable scoop to direct airflow. Fits duct sizes 6" on up, based on diffuser height. Includes gasket.

Construction — Aluminum. Bright White or Clear Anodized finish standard.



* Size restrictions apply.
See price list for sizes and ordering information.



Model UALSDVH

Universal Double-Deflection Diffuser

Design — Model UALSDVH is made exclusively for quick, easy mounting on round metal ductwork.

Features — Two rows of individually adjustable blades for horizontal and vertical deflection control. Optional face adjustable scoop to direct airflow. Fits duct sizes 6" on up, based on diffuser height. Includes gasket.

Construction — Aluminum. Bright White or Clear Anodized finish standard.

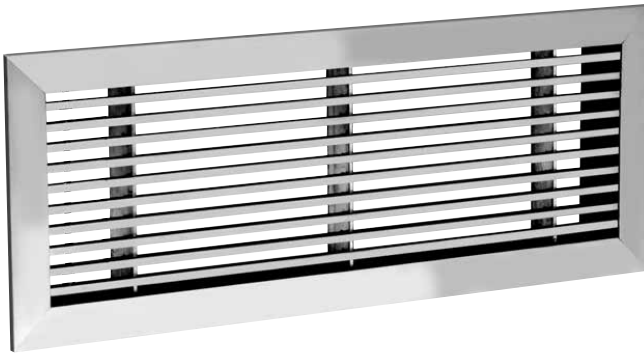
For Models ALSDV and ALSDVH
Minimum Duct Diameter per listed size

		<i>Width</i>								
		10	12	14	16	18	20	24	30	36
<i>Height</i>	3	5	5	5	5	5	5	5	5	5
	4	6	6	6	6	6	6	6	6	6
	6	8	8	8	8	8	8	8	8	8
	8	10	10	10	10	10	10	10	10	10
	10		12	12	12	12	12	12	12	12
	12			14	14	14	14	14	14	14

For Models UALSDV and UALSDVH
Minimum Duct Diameter

		<i>Width</i>								
		10	12	14	16	18	20	24	30	36
<i>Height</i>	3	6	6	6	6	6	6	6	6	6
	4	10	10	10	10	10	10	10	10	10
	6	12	12	12	12	12	12	12	12	12
	8			20	20	20	20	20	20	20
	10				24	24	24	24	24	24
	12					30	30	30	30	30

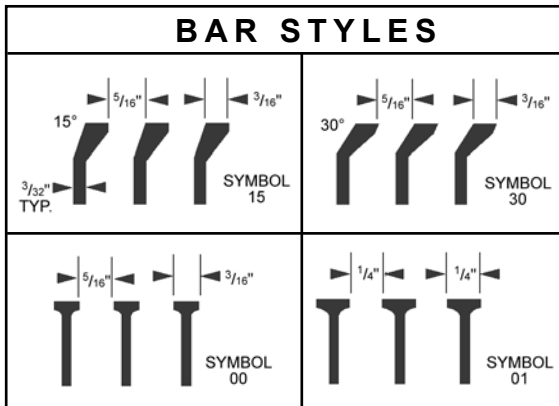
Maximum duct diameter for all sizes is 50".



Series AL2500 Linear Diffuser

Design — Series AL2500 is designed for use in ceiling, sidewall, sill, or floor where a continuous linear line effect is required.

Features — Series AL2500 has grille bars on 1/2" centers set at 0°, 15° or 30° reflections. Choice of four fastening methods. Pencil-proof spacing available. Optional accessories include: opposed-blade damper (OBD) and straightening grid. OBD not available on diffuser widths under 3 1/2". A single-leaf damper is used instead.



Bars on 1/2" centers

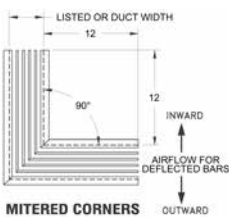
LIGHT COMMERCIAL GRD

How to Order Series AL2500 (Example: AL2500S 2 01 0 24 4 WHT)

Application	Type	Bar Style	Mounting Style	Size	Finish
AL2500S - Sidewall or ceiling AL2500F - Floor	1 - Grille only 2 - Grille w/control grid 3 - Grille w/damper 4 - Grille w/control grid and damper	00 - Straight 01 - Pencil Proof 15 - 15° deflection 30 - 30° deflection	0 - Standard (floor or sill) 1 - Hanger bracket (1 1/2" thru 12" only for 00 bar style only without mounted damper/control grid) 2 - Mounting frame 3 - screw holes in margin	Length x Width in inches	CLR WHT

Note: #1 mounting style requires inside hemmed duct for hanger bracket.

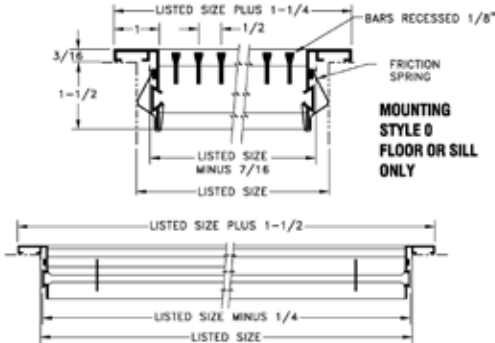
How to Order Mitered Corners (Example: AL2500 F CL1 30 2 90 I 4 WHT)



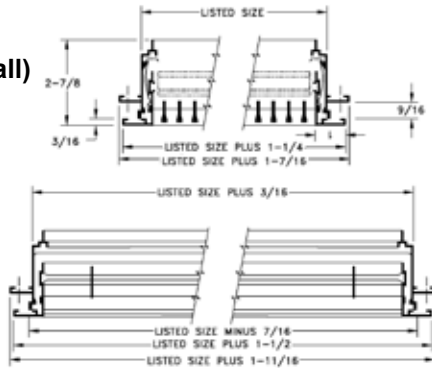
AL2500	Position	Type	Bar Style	Mounting Style	Miter Degree	Miter Type	Width	Finish
F - Floor S - Sidewall	CL1 - Grille only		00 - Straight 01 - Pencil Proof 15 - 15° 30 - 30°	0 1 2 3	90°		in inches	CLR WHT

• For 15° or 30° deflection only specify: I (inside) or O (outside) deflection
 • Sidewall applications specify: SI (sidewall inside) or SO (sidewall outside)
 • For 15° or 30° sidewall also specify: up or down (SIU, SID, SOU, SOD)

Mounting Style 0 (Floor/Sill) AL2500F

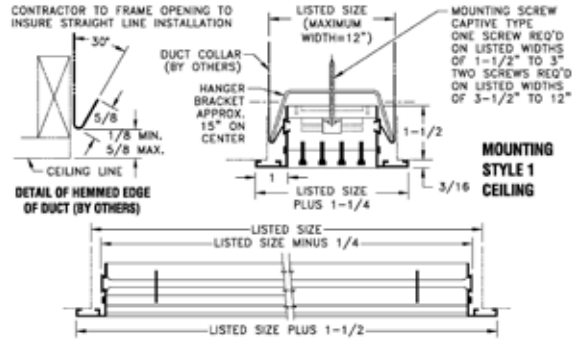


Mounting Style 2 (Ceiling/Sidewall) AL2500S

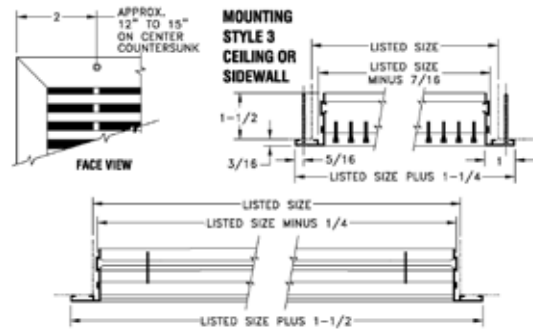


Mounting Style 1 (Ceiling) AL2500S

00 Bar Style Only w/o Mounted Damper or Control Grid



Mounting Style 3 (Ceiling/Sidewall) AL2500S



BAR STYLES	
<p>SYMBOL 15</p>	<p>SYMBOL 30</p>
<p>SYMBOL 00</p>	<p>SYMBOL 01</p>

Bars on 1/2" Centers

Note: Quantity of bars = 2 x listed width minus 2.
Example: 4" listed width = 4" x 2 = 8 minus 2 = 6 bars.

Linear Diffuser Components



AL2500 Single-Leaf Damper Option

- Aluminum construction
- Leaf type for sizes 1 1/2" to 3"

Note: Order with desired diffuser for attachment at factory.

Cannot be used with hanger brackets.



AL2500 Grid Option

- Aluminum construction
- Individually adjustable blades
- Cannot be used with hanger brackets

Note: Grid blades are assembled parallel to short dimension. Order with desired diffuser for factory fitting.



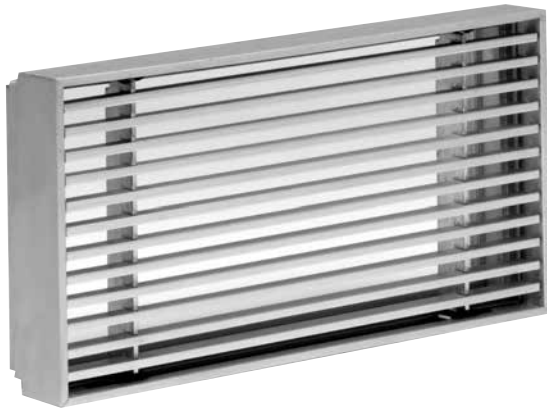
AL2500 Damper Option

- Extruded aluminum construction
- Controls the air volume from full flow to shut-off
- Fits widths of 3 1/2" and wider

Note: Order with desired diffuser for attachment at factory.

Must be ordered separately and duct-mounted if mounting style #1 is used.

Available Sizes (in.)
3 1/2" and wider



Model ALFZ2500

Linear Grille

Design — Model ALFZ2500 is a heavy-duty design for use as floor or sill grilles and registers only.

Features — Model ALFZ2500 has 1/2" centers set on 0°, 15° or 30° deflections. Pencil-proof spacing available. Optional accessories include opposed-blade damper (OBD) and straightening grid. OBD not available on diffuser widths under 3 1/2"; single-blade damper used instead.

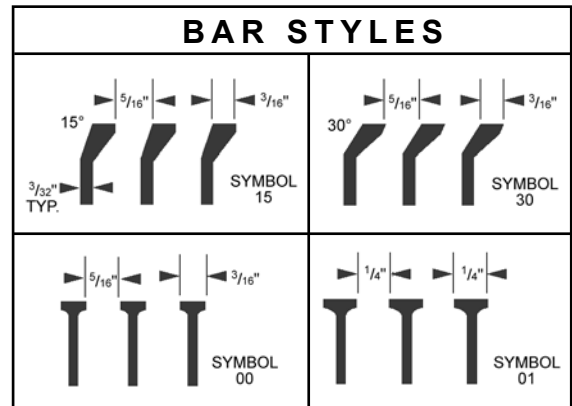
Construction — All-aluminum construction. Bright White or Clear Anodized finish. Maximum one-piece construction is six feet. Reinforced on 6" centers. Longer sections butted together. Mitered corners and access doors also available.

Listed Sizes Available

Minimum L x W	Maximum L x W*
4 x 1 1/2	72 x 24
Any fractional inch increment of length. One half inch increments of width.	
Sizes longer than maximum will be furnished in multiple sections for field-joining.	

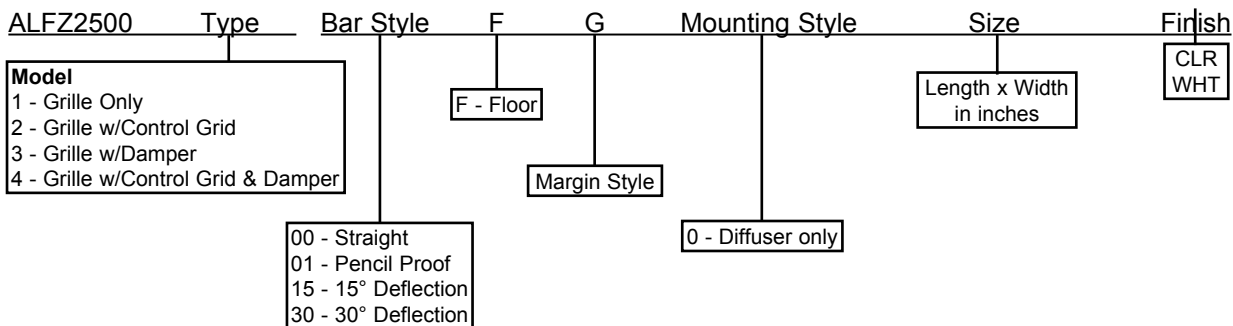
All dimensions in inches. Overall dimension = size - 1/8".
 *8" maximum width for heavy traffic, 12" for occasional traffic.

LIGHT COMMERCIAL GRD

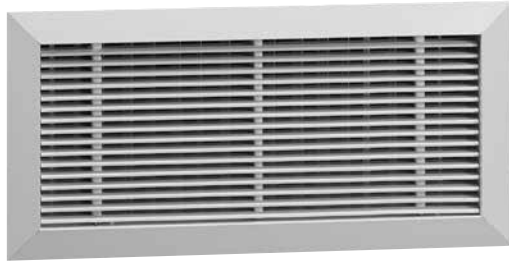


Bars on 1/2" centers

How to Order Model ALFZ2500



Example: ALFZ2500 1 01 F G 0 24 4 WHT



Model AL2810 AL2815

Reversible Core Supply/Return

Design — Model AL2810 is a multi-deflection return air grille or supply register. Model AL2815 has adjustable, vertical fins behind core.

Features — Horizontal front deflection vanes in a reversible, removable core providing 15° up, 5° down or 5° up, and 15° down pattern deflections. Core fins of extruded aluminum are set on ¼” centers. Optional opposed-blade damper (OBD) is screwdriver-operated.

Construction — Extruded aluminum. Bright White or Clear Anodized finishes available.

HOW TO SPECIFY:

Model (core deflection, as required), listed size L x W, finish.

Example:

1. AL2810 OBD 1212 CLR
2. AL2815 2412 WHT

LISTED SIZES AVAILABLE in one piece

Minimum L x W	Maximum L x W
6 x 3	36 x 18
One-inch increments of length and width.	
Multiple sections are furnished for sizes greater than maximum width or height. Adjacent margins are full sized for extra strength. Product dimensions are factory-adjusted to ensure a correct fit.	

All dimensions in inches.



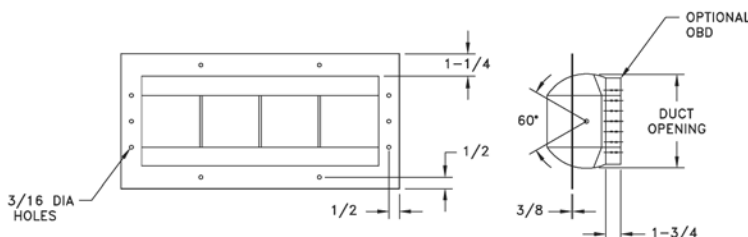
Model AL2900

High-Volume, Rotating, Industrial Drum Louver

Design — Model AL2900 provides horizontal and vertical air stream control.

Features — Length of throw control and direction are made possible by adjustable drum and vane design. Galvanized steel opposed-blade damper (OBD) optional.

Construction — Aluminum. Bright White or Mill finish standard.





Model OBD, ALOBD, OBDDM

Opposed-Blade Damper

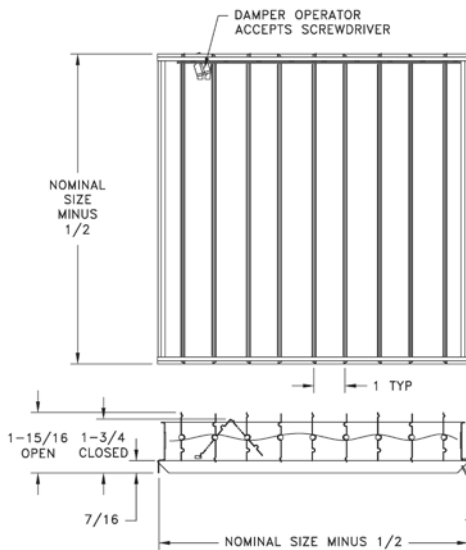
Design — Model OBD is used on registers and grilles. OBDDM is used for duct mounting. Opposed-blade dampers have vertical blades that move in opposite directions to control air volume over the entire face of a register or grille.

Features — Interwoven tension spring on blade pivot points permits positive setting from full-open to full-closed. Blades are screwdriver-operated. Extremely shallow depth allows damper use in shallow stackheads.

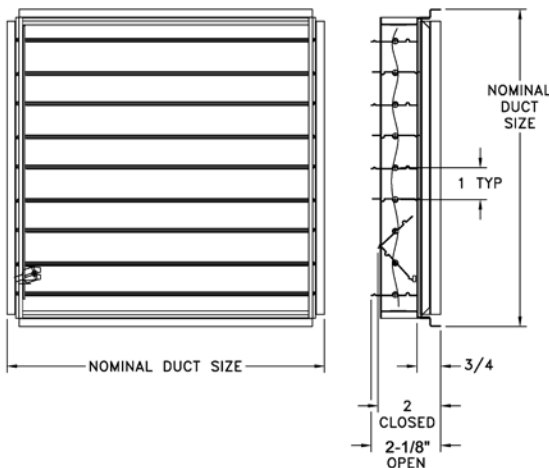
Construction — Extruded aluminum or steel. Mill finish standard.

OBD14 available for use on 1400 series only.

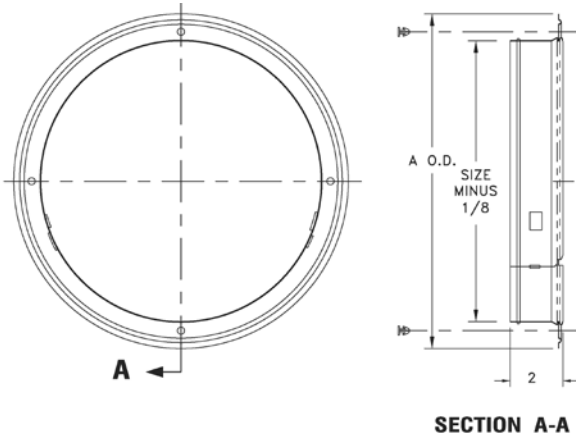
OBD, ALOBD, OBDDM



OBD14 (Field installed only)



LIGHT COMMERCIAL GRD



Model 1565

Collar Ring

Design — Snap-in design for easy installation.

Features — 2" high collar with bead provides secure flex duct connections.

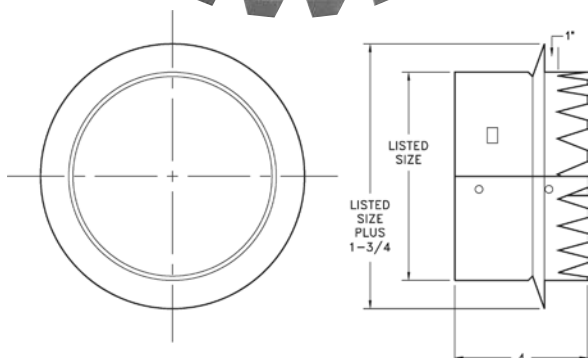
Construction — All-steel construction.

Note: 1565PP Push Pins required when using this collar with a molded fiberglass back panel.



1565PP

Note: Install pins from underside of molding insulation.



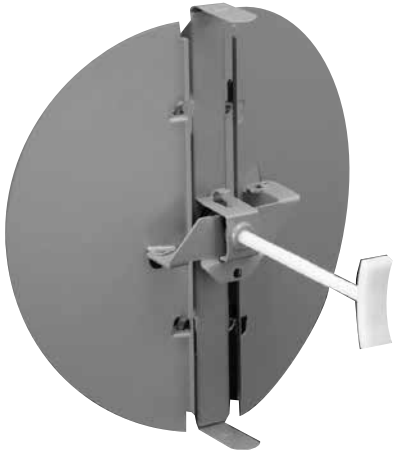
Model R12

Tab Collar

Design — Model R12 collars are designed for installation on fiberglass backed ceiling diffusers.

Features — The R12 is tabbed for easy installation. It accepts the R22 butterfly damper.

Construction — Galvanized steel construction.



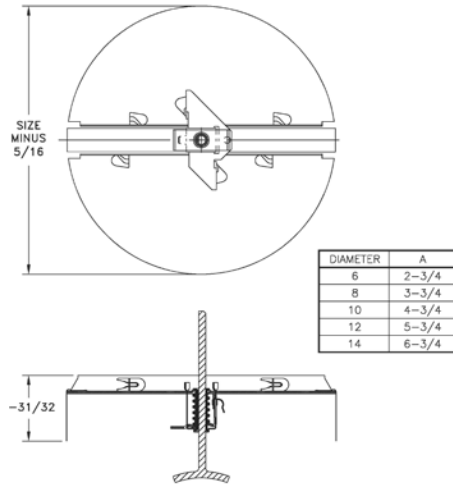
Model R22

Butterfly Damper

Design — Model R22 is designed for installation on round neck diffusers.

Features — The R22 is easily adjusted through the face of the diffuser with an included plastic damper operator. The R22 mounts quickly to diffuser stackhead.

Construction — Steel. Brown finish standard.





Model R32

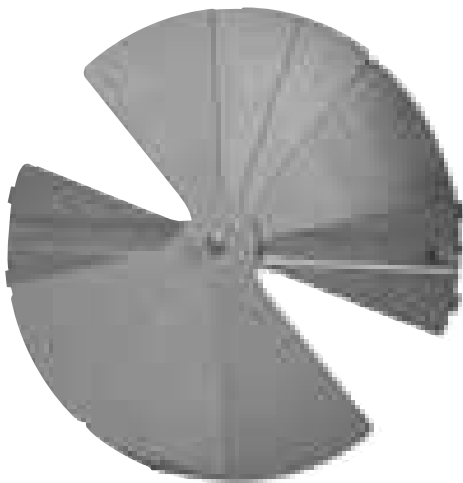
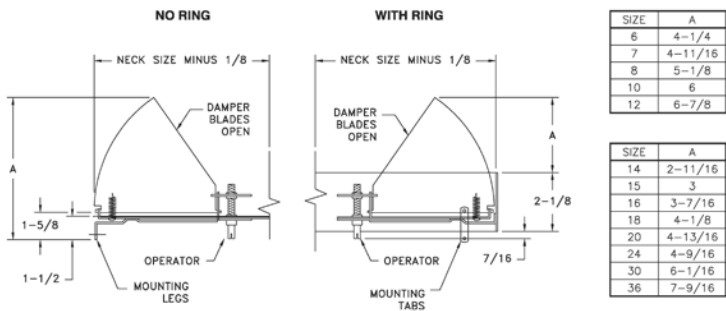
Radial Opposed-Blade Damper

Design — Model R32 is designed for installation on round neck diffusers. Opposed-blade design provides exacting volume control.

Features — R32 is easily adjusted through the face of the diffuser with a screwdriver. The R32 mounts quickly to the diffuser stackhead.

Construction — Galvanized steel with Mill finish standard.

Note: 6" through 12" = R32
14" through 36" = R32DM



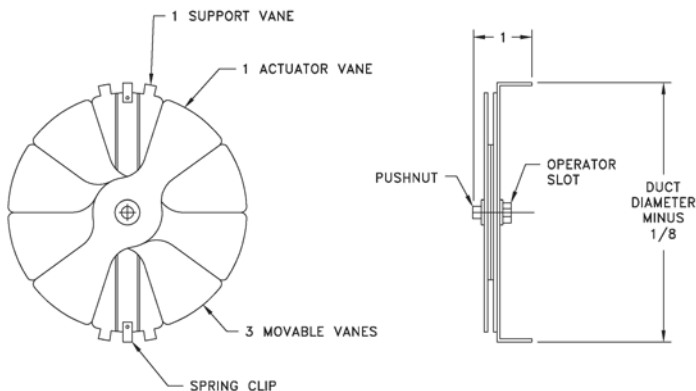
Model R42

Radial-Blade Damper

Design — Model R42 is an economical damper designed for installation on round neck diffusers.

Features — The R42 is easily adjusted through the face of the diffuser with a screwdriver. The R42 mounts quickly to diffuser stackhead.

Construction — Galvanized steel with Mill finish standard.





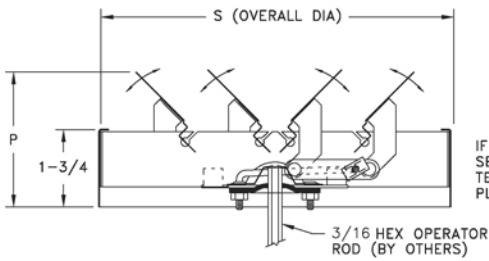
Model R52

Round Multi-Louver Damper

Design — Model R52 is an opposed-blade damper for use with Model 1600 Round Diffuser (duct-mount only).

Features — Opposed-blade finish. Available in 6, 8, 10, 12, 14, 16 and 18 sizes.

Construction — Steel construction. Bright White finish.



IF OPERATOR IS TO BE REMOVED AFTER SETTING DAMPER, DO NOT DRIVE INTO TENSION PLATE AS THIS LOCKS ROD IN PLACE FOR PERMANENT INSTALLATION

CROSS SECTION WITH VALVES PARTLY OPEN SHOWING OPPOSED-BLADE OPERATION

SIZE	S	P
6	5-15/16	3
8	7-15/16	3-1/2
10	9-15/16	4-9/16
12	11-15/16	4-9/16
14	13-15/16	4-9/16
16	15-15/16	4-9/16
18	17-15/16	4-9/16



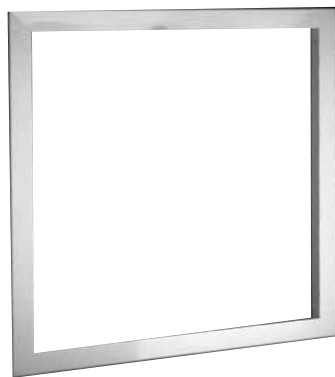
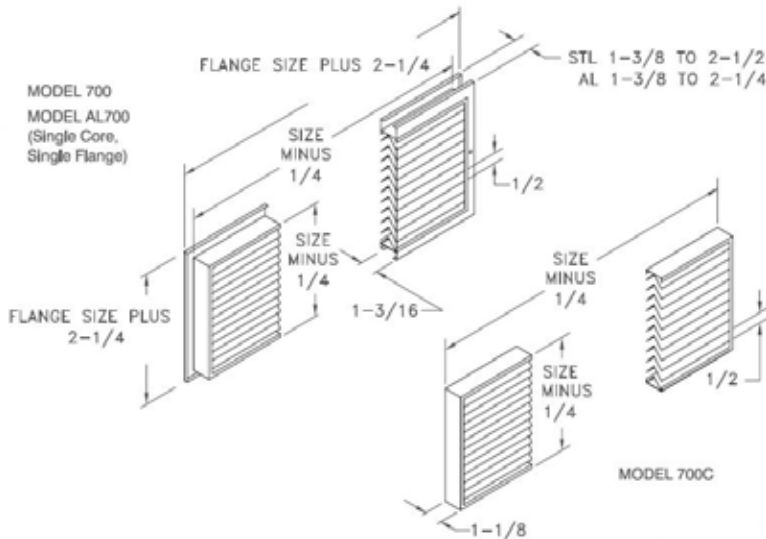
Model 700 AL700

Non-vision Door Grille

Design — Non-vision door grilles are designed for installation in doors, walls or partitions where constant air passage is required.

Features — Closely spaced fins are on 1/2" centers for greater free areas. Available in three models. Model 700 has 1/4" border; 700A includes core, frame and auxiliary frame that adjusts to fit any thickness from 1 3/8" to 2 1/2"; 700C includes core and channel only.

Construction — Steel or aluminum. Bright White finish standard.



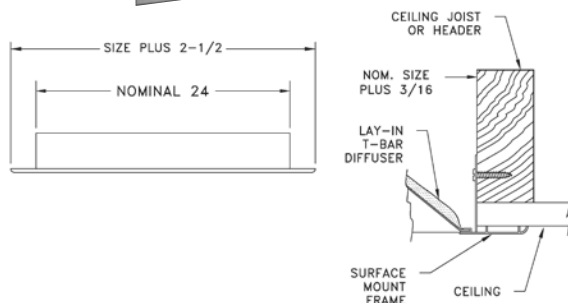
Model AL10PF

Plaster Frame

Design — Model AL10PF plaster frame allows installation of lay-in diffusers into framed sheet rock openings.

Features — Accepts all standard 24 x 24 lay-in T-Bar diffusers, as well as 12 x 12 and 12 x 24, 24 x 48.

Construction — Extruded aluminum construction. Bright White finish standard.





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