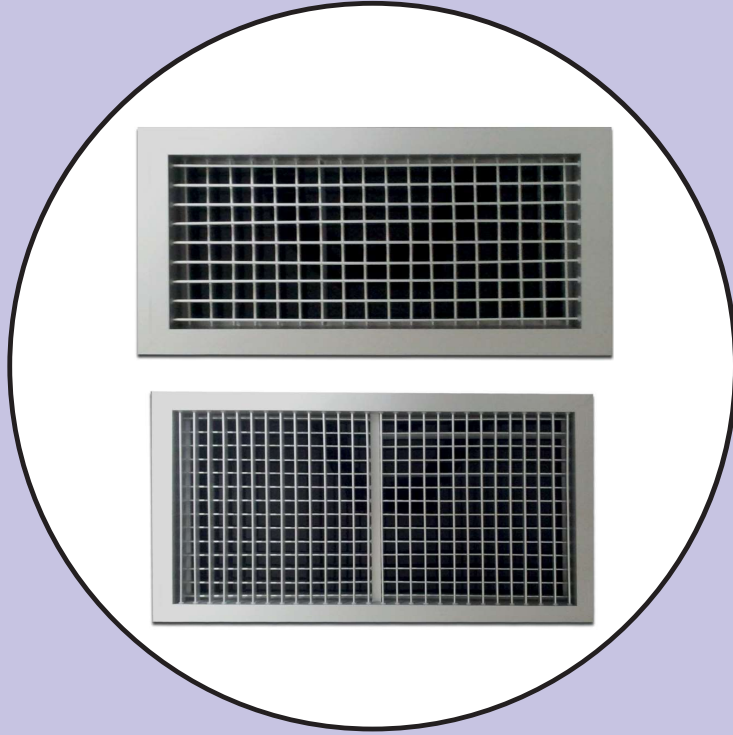


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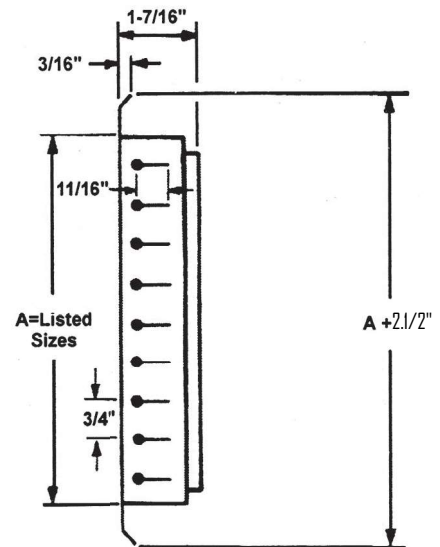
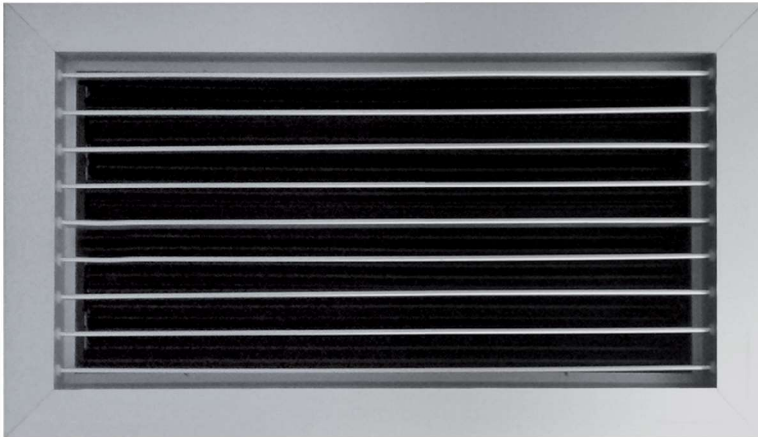
GGC

شركة الخليج لفتحات التكييف المركزي

GULF GRILLES CO.



SUPPLY GRILLES
& REGISTERS



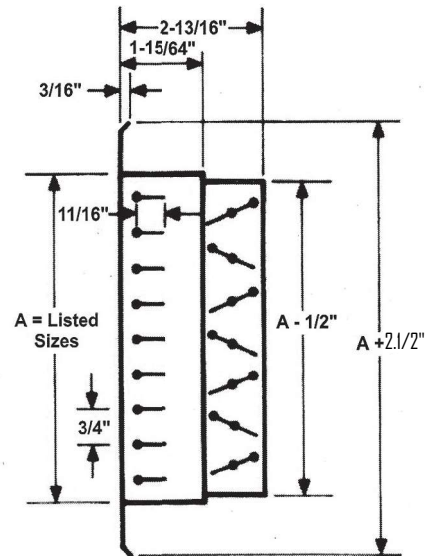
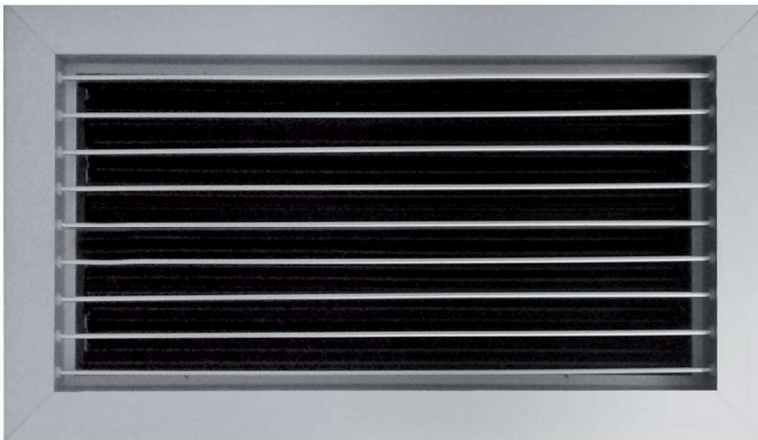
PRODUCT DESCRIPTION

- A single deflection grille providing air deflection in the vertical plane.
- Frame and blades are extruded aluminium alloy and are polyester powder coated with a white finish.
 - The frame has a typical wall thickness of 1/16" and is separated from the blades with PVC bushings. This method of assembly eliminates corrosion and vibration.
 - The frame mounting holes are dimpled, allowing for a counter-sunk fastener head appearance.
 - All blades are airfoil in design, individually adjustable and spaced 3/4" on center.
 - Deflection of blades are easily set without use of special tools.
 - The unit achieves an effective area of 80% with the blades set at 0° pattern thus eliminating high velocity and pressure drop at the grille face. Wider deflection with reduced throw may be achieved at the 22½° and 45° blade settings with only slightly increased noise levels.
 - Standard finish is white, painted under electrostatic polyester powder coated system. Other colors available on request. The polyester powder of highest quality are used to enhance the appearance of the units.
 - Suitable for high sidewall, soffit or duct mounting, for heating, ventilating and cooling applications.

Listed Sizes

Size (inches)	CFM (range)	Size (inches)	CFM (range)	Size (inches)	CFM (range)	Size (inches)	CFM (range)
8 x 4	50-150	10 x 6	100-200	30 x 6	300-800	20 x 8	200-500
10 x 4	50-200	12 x 6	100-250	32 x 6	300-800	24 x 8	300-800
14 x 4	100-200	16 x 6	100-250	36 x 6	400-800	28 x 8	400-800
18 x 4	100-250	18 x 6	100-250	10 x 8	100-250	30 x 8	500-800
20 x 4	100-250	20 x 6	100-300	12 x 8	100-250	32 x 8	500-800
24 x 4	100-250	24 x 6	150-400	16 x 8	150-300	36 x 8	500-1000
8 x 6	50-200	28 x 6	200-500	18 x 8	150-400	12 x 10	100-300

Size (inches)	CFM (range)	Size (inches)	CFM (range)	Size (inches)	CFM (range)	Size (inches)	CFM (range)
14 x 10	150-400	32 x 10	500-1200	24 x 12	500-1000	18 x 14	500-800
16 x 10	200-500	36 x 10	500-1300	28 x 12	500-1200	24 x 14	500-1200
18 x 10	300-800	12 x 12	150-400	30 x 12	500-1300	30 x 14	800-1400
20 x 10	300-800	14 x 12	200-500	32 x 12	500-1300	16 x 16	500-800
24 x 10	500-800	16 x 12	300-800	36 x 12	800-1400	20 x 16	500-1200
28 x 10	500-1000	18 x 12	400-800	14 x 14	300-800	24x16	500-1300
30 x 10	500-1000	20 x 12	500-800	16 x 14	400-800	30x16	800-1400



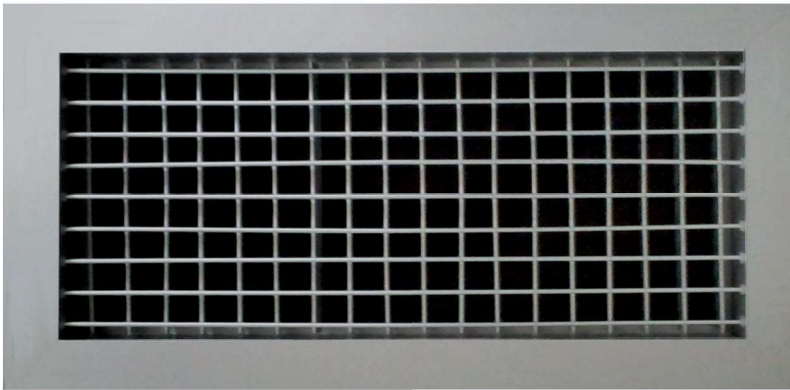
PRODUCT DESCRIPTION

- A single deflection grille with an opposed blade damper, providing air deflection in the vertical plane.
- The frame and blades are extruded aluminium alloy and are polyester powder coated with a white finish.
 - Frame has a typical wall thickness of 1/16" and is separated from the blades with PVC bushings. This method of assembly eliminates corrosion and vibration.
 - The frame mounting holes are dimpled, allowing for a counter-sunk fastener head appearance.
 - All blades are airfoil in design, individually adjustable and spaced 3/4" on center.
 - Deflection of blades are easily set without use of special tools.
 - Opposed blade damper (OBD) operator is easily adjusted through face with a screw driver.
 - The unit achieves an effective area of 80% with the blades set at 0° pattern thus eliminating high velocity and pressure drop at the grille face. Wider deflection with reduced throw may be achieved at the 22½° and 45° blade settings with only slightly increased noise levels.
 - Standard finish white color for frame and blades. Damper in black color. Painted under electrostatic polyester powder coated system. Other colors available on request. The polyester powder of highest quality are used to enhance the appearance of the units.
 - Suitable for high sidewall, soffit or duct mounting, for heating, ventilating and cooling applications.

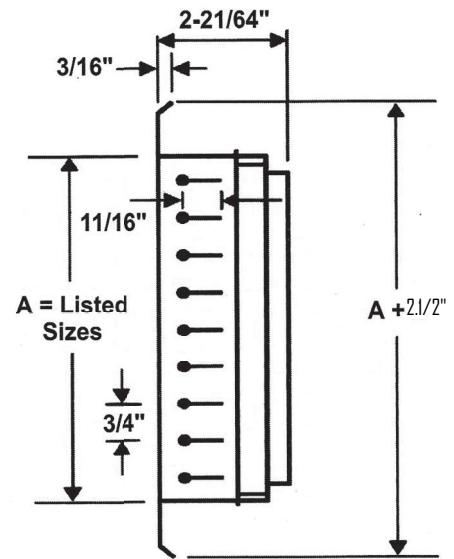
Listed Sizes

Size (inches)	CFM (range)	Size (inches)	CFM (range)	Size (inches)	CFM (range)	Size (inches)	CFM (range)
8 x 4	50-150	10 x 6	100-200	30 x 6	300-800	20 x 8	200-500
10 x 4	50-200	12 x 6	100-250	32 x 6	300-800	24 x 8	300-800
14 x 4	100-200	16 x 6	100-250	36 x 6	400-800	28 x 8	400-800
18 x 4	100-250	18 x 6	100-250	10 x 8	100-250	30 x 8	500-800
20 x 4	100-250	20 x 6	100-300	12 x 8	100-250	32 x 8	500-800
24 x 4	100-250	24 x 6	150-400	16 x 8	150-300	36 x 8	500-1000
8 x 6	50-200	28 x 6	200-500	18 x 8	150-400	12 x 10	100-300

Size (inches)	CFM (range)	Size (inches)	CFM (range)	Size (inches)	CFM (range)	Size (inches)	CFM (range)
14 x 10	150-400	32 x 10	500-1200	24 x 12	500-1000	18 x 14	500-800
16 x 10	200-500	36 x 10	500-1300	28 x 12	500-1200	24 x 14	500-1200
18 x 10	300-800	12 x 12	150-400	30 x 12	500-1300	30 x 14	800-1400
20 x 10	300-800	14 x 12	200-500	32 x 12	500-1300	16 x 16	500-800
24 x 10	500-800	16 x 12	300-800	36 x 12	800-1400	20 x 16	500-1200
28 x 10	500-1000	18 x 12	400-800	14 x 14	300-800	24 x 16	500-1300
30 x 10	500-1000	20 x 12	500-800	16 x 14	400-800	30 x 16	800-1400



PRODUCT DESCRIPTION

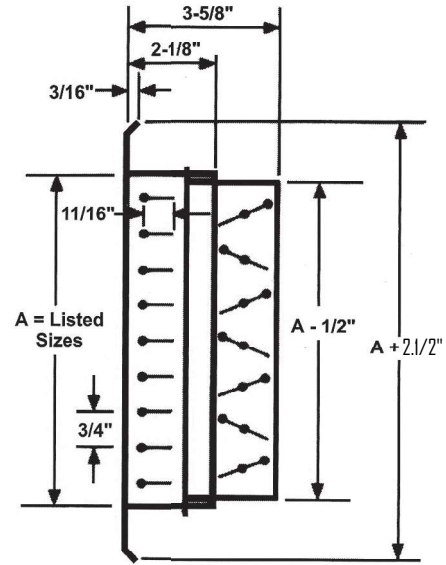
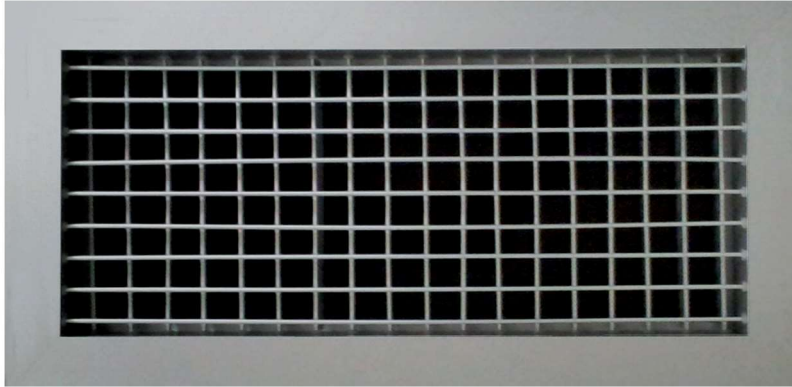


- A double deflection grille providing air deflection in both horizontal and vertical planes.
- Frame and blades are extruded aluminium alloy and are polyester powder coated with a white finish.
 - The frame has a typical wall thickness of 1/16" and is separated from the blades with PVC bushings. This method of assembly eliminates corrosion and vibration.
 - The frame mounting holes are dimpled, allowing for a counter-sunk fastener head appearance.
 - All blades are airfoil in design, individually adjustable and spaced 3/4" on center.
 - Deflection of blades are easily set without use of special tools.
 - The unit achieves an effective area of 80% with the blades set at 0° pattern thus eliminating high velocity and pressure drop at the grille face. Wider deflection with reduced throw may be achieved at the 22½° and 45° blade settings with only slightly increased noise levels.
 - Standard finish is white, painted under electrostatic polyester powder coated system. Other colors available on request. The polyester powder of highest quality are used to enhance the appearance of the units.
 - Suitable for high sidewall, soffit or duct mounting, for heating, ventilating and cooling applications.

Listed Sizes

Size (inches)	CFM (range)	Size (inches)	CFM (range)	Size (inches)	CFM (range)	Size (inches)	CFM (range)
8 x 4	50-150	10 x 6	100-200	30 x 6	300-800	20 x 8	200-500
10 x 4	50-200	12 x 6	100-250	32 x 6	300-800	24 x 8	300-800
14 x 4	100-200	16 x 6	100-250	36 x 6	400-800	28 x 8	400-800
18 x 4	100-250	18 x 6	100-250	10 x 8	100-250	30 x 8	500-800
20 x 4	100-250	20 x 6	100-300	12 x 8	100-250	32 x 8	500-800
24 x 4	100-250	24 x 6	150-400	16 x 8	150-300	36 x 8	500-1000
8 x 6	50-200	28 x 6	200-500	18 x 8	150-400	12 x 10	100-300

Size (inches)	CFM (range)	Size (inches)	CFM (range)	Size (inches)	CFM (range)	Size (inches)	CFM (range)
14 x 10	150-400	32 x 10	500-1200	24 x 12	500-1000	18 x 14	500-800
16 x 10	200-500	36 x 10	500-1300	28 x 12	500-1200	24 x 14	500-1200
18 x 10	300-800	12 x 12	150-400	30 x 12	500-1300	30 x 14	800-1400
20 x 10	300-800	14 x 12	200-500	32 x 12	500-1300	16 x 16	500-800
24 x 10	500-800	16 x 12	300-800	36 x 12	800-1400	20 x 16	500-1200
28 x 10	500-1000	18 x 12	400-800	14 x 14	300-800	24 x 16	500-1300
30 x 10	500-1000	20 x 12	500-800	16 x 14	400-800	24x16	800-1400



PRODUCT DESCRIPTION

A double deflection grille with an opposed blade damper, providing air deflection in both horizontal and vertical planes.

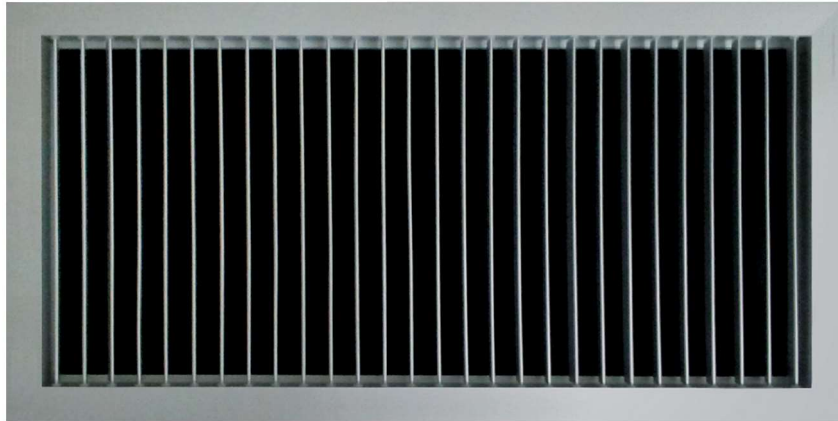
- Frame and blades are extruded aluminium alloy and are polyester powder coated with a white finish.
- The frame has a typical wall thickness of 1/16" and is separated from the blades with PVC bushings. This method of assembly eliminates corrosion and vibration.
- The frame mounting holes are dimpled, allowing for a counter-sunk fastener head appearance.
- All blades are airfoil in design, individually adjustable and spaced 3/4" on center.
- Deflection of blades are easily set without use of special tools.

- Opposed blade damper (OBD) operator is easily adjusted through front face with a screw driver.
- The unit achieves an effective area of 80% with the blades set at 0° pattern thus eliminating high velocity and pressure drop at the grille face. Wider deflection with reduced throw may be achieved at the 22½° and 45° blade settings with only slightly increased noise levels.
- Standard finish white color for frame and blades. Damper in black color. Painted under electrostatic polyester powder coated system. Other colors available on request. The polyester powder of highest quality are used to enhance the appearance of the units.
- Suitable for high sidewall, soffit or duct mounting, for heating, ventilating and cooling applications.

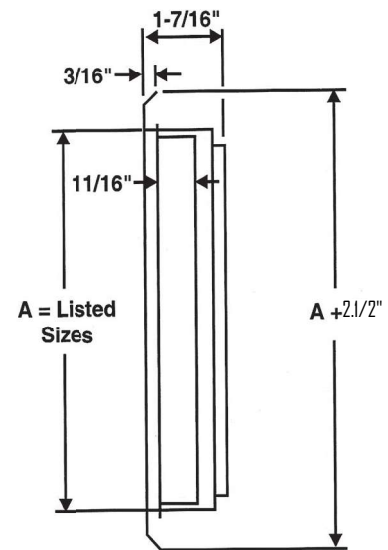
Listed Sizes

Size (inches)	CFM (range)	Size (inches)	CFM (range)	Size (inches)	CFM (range)	Size (inches)	CFM (range)
8 x 4	50-150	10 x 6	100-200	30 x 6	300-800	20 x 8	200-500
10 x 4	50-200	12 x 6	100-250	32 x 6	300-800	24 x 8	300-800
14 x 4	100-200	16 x 6	100-250	36 x 6	400-800	28 x 8	400-800
18 x 4	100-250	18 x 6	100-250	10 x 8	100-250	30 x 8	500-800
20 x 4	100-250	20 x 6	100-300	12 x 8	100-250	32 x 8	500-800
24 x 4	100-250	24 x 6	150-400	16 x 8	150-300	36 x 8	500-1000
8 x 6	50-200	28 x 6	200-500	18 x 8	150-400	12 x 10	100-300

Size (inches)	CFM (range)	Size (inches)	CFM (range)	Size (inches)	CFM (range)	Size (inches)	CFM (range)
14 x 10	150-400	32 x 10	500-1200	24 x 12	500-1000	18 x 14	500-800
16 x 10	200-500	36 x 10	500-1300	28 x 12	500-1200	24 x 14	500-1200
18 x 10	300-800	12 x 12	150-400	30 x 12	500-1300	30 x 14	800-1400
20 x 10	300-800	14 x 12	200-500	32 x 12	500-1300	16 x 16	500-800
24 x 10	500-800	16 x 12	300-800	36 x 12	800-1400	20 x 16	500-1200
28 x 10	500-1000	18 x 12	400-800	14 x 14	300-800	24 x 16	500-1300
30 x 10	500-1000	20 x 12	500-800	16 x 14	400-800	30x16	800-1400



PRODUCT DESCRIPTION



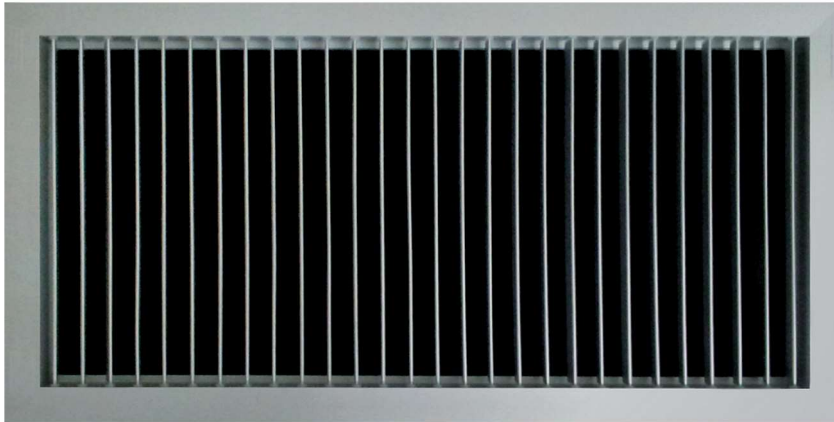
A single deflection grille providing air deflection in the horizontal plane.

- Frame and blades are extruded aluminium alloy and are polyester powder coated with a white finish.
- The frame has a typical wall thickness of 1/16" and is separated from the blades with PVC bushings. This method of assembly eliminates corrosion and vibration.
- The frame mounting holes are dimpled, allowing for a counter-sunk fastener head appearance.
- All blades are airfoil in design, individually adjustable and spaced 3/4" on center.
- Deflection of blades are easily set without use of special tools.
- The unit achieves an effective area of 80% with the blades set at 0° pattern thus eliminating high velocity and pressure drop at the grille face. Wider deflection with reduced throw may be achieved at the 22½° and 45° blade settings with only slightly increased noise levels.
- Standard finish is white, painted under electrostatic polyester powder coated system. Other colors available on request. The polyester powder of highest quality are used to enhance the appearance of the units.
- Suitable for high sidewall, soffit or duct mounting, for heating, ventilating and cooling applications.

Listed Sizes

Size (inches)	CFM (range)	Size (inches)	CFM (range)	Size (inches)	CFM (range)	Size (inches)	CFM (range)
8 x 4	50-150	10 x 6	100-200	30 x 6	300-800	20 x 8	200-500
10 x 4	50-200	12 x 6	100-250	32 x 6	300-800	24 x 8	300-800
14 x 4	100-200	16 x 6	100-250	36 x 6	400-800	28 x 8	400-800
18 x 4	100-250	18 x 6	100-250	10 x 8	100-250	30 x 8	500-800
20 x 4	100-250	20 x 6	100-300	12 x 8	100-250	32 x 8	500-800
24 x 4	100-250	24 x 6	150-400	16 x 8	150-300	36 x 8	500-1000
8 x 6	50-200	28 x 6	200-500	18 x 8	150-400	12 x 10	100-300

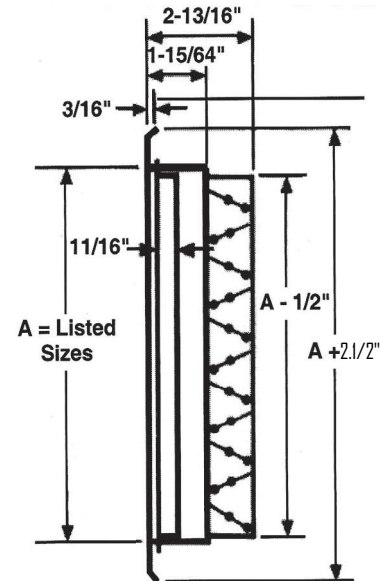
Size (inches)	CFM (range)	Size (inches)	CFM (range)	Size (inches)	CFM (range)	Size (inches)	CFM (range)
14 x 10	150-400	32 x 10	500-1200	24 x 12	500-1000	18 x 14	500-800
16 x 10	200-500	36 x 10	500-1300	28 x 12	500-1200	24 x 14	500-1200
18 x 10	300-800	12 x 12	150-400	30 x 12	500-1300	30 x 14	800-1400
20 x 10	300-800	14 x 12	200-500	32 x 12	500-1300	16 x 16	500-800
24 x 10	500-800	16 x 12	300-800	36 x 12	800-1400	20 x 16	500-1200
28 x 10	500-1000	18 x 12	400-800	14 x 14	300-800	24 x 16	500-1300
30 x 10	500-1000	20 x 12	500-800	16 x 14	400-800	30x16	800-1400



PRODUCT DESCRIPTION

A single deflection grille with an opposed blade damper, providing air deflection in the horizontal plane.

- Frame and blades are extruded aluminium alloy and are polyester powder coated with a white finish.
- The frame has a typical wall thickness of 1/16" and is separated from the blades with PVC bushings. This method of assembly eliminates corrosion and vibration.
- The frame mounting holes are dimpled, allowing for a counter-sunk fastener head appearance.
- All blades are airfoil in design, individually adjustable and spaced 3/4" on center.
- Deflection of blades are easily set without use of special tools.

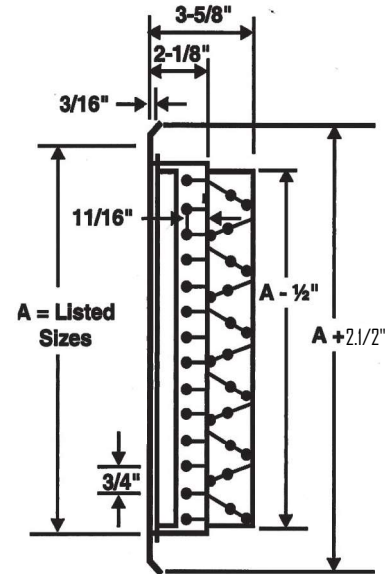
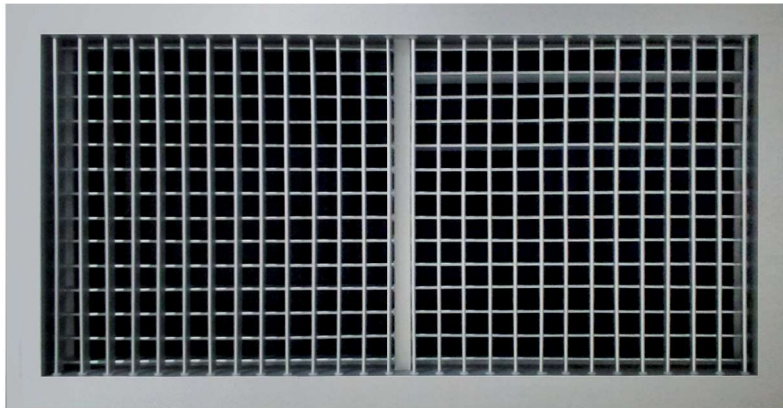


- Opposed blade damper (OBD) operator is easily adjusted through face with a screw driver.
- The unit achieves an effective area of 80% with the blades set at 0° pattern thus eliminating high velocity and pressure drop at the grille face. Wider deflection with reduced throw may be achieved at the 22½° and 45° blade settings with only slightly increased noise levels.
- Standard finish white color for frame and blades. Damper in black color. Painted under electrostatic polyester powder coated system. Other colors available on request. The polyester powder of highest quality are used to enhance the appearance of the units.
- Suitable for high sidewall, soffit or duct mounting, for heating, ventilating and cooling applications.

Listed Sizes

Size (inches)	CFM (range)	Size (inches)	CFM (range)	Size (inches)	CFM (range)	Size (inches)	CFM (range)
8 x 4	50-150	10 x 6	100-200	30 x 6	300-800	20 x 8	200-500
10 x 4	50-200	12 x 6	100-250	32 x 6	300-800	24 x 8	300-800
14 x 4	100-200	16 x 6	100-250	36 x 6	400-800	28 x 8	400-800
18 x 4	100-250	18 x 6	100-250	10 x 8	100-250	30 x 8	500-800
20 x 4	100-250	20 x 6	100-300	12 x 8	100-250	32 x 8	500-800
24 x 4	100-250	24 x 6	150-400	16 x 8	150-300	36 x 8	500-1000
8 x 6	50-200	28 x 6	200-500	18 x 8	150-400	12 x 10	100-300

Size (inches)	CFM (range)	Size (inches)	CFM (range)	Size (inches)	CFM (range)	Size (inches)	CFM (range)
14 x 10	150-400	32 x 10	500-1200	24 x 12	500-1000	18 x 14	500-800
16 x 10	200-500	36 x 10	500-1300	28 x 12	500-1200	24 x 14	500-1200
18 x 10	300-800	12 x 12	150-400	30 x 12	500-1300	30 x 14	800-1400
20 x 10	300-800	14 x 12	200-500	32 x 12	500-1300	16 x 16	500-800
24 x 10	500-800	16 x 12	300-800	36 x 12	800-1400	20 x 16	500-1200
28 x 10	500-1000	18 x 12	400-800	14 x 14	300-800	24x16	500-1300
30 x 10	500-1000	20 x 12	500-800	16 x 14	400-800	30x16	800-1400



PRODUCT DESCRIPTION

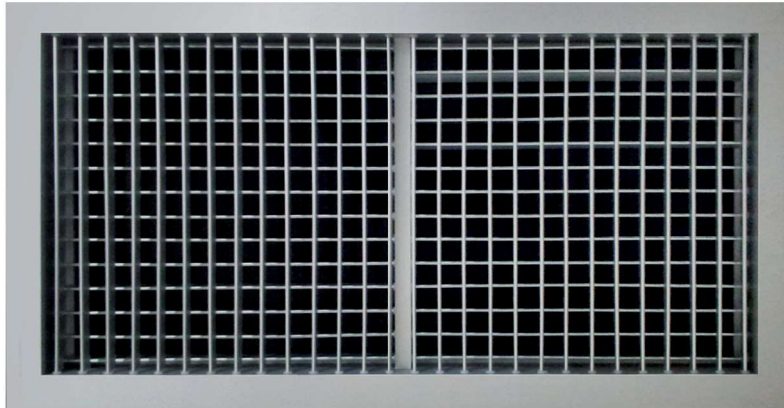
A double deflection grille with an opposed blade damper, providing air deflection in both horizontal and vertical planes.

- Frame and blades are extruded aluminium alloy and are polyester powder coated with a white finish.
- The frame has a typical wall thickness of 1/16" and is separated from the blades with PVC bushings. This method of assembly eliminates corrosion and vibration.
- The frame mounting holes are dimpled, allowing for a counter-sunk fastener head appearance.
- All blades are airfoil in design, individually adjustable and spaced 3/4" on center.
- Deflection of blades are easily set without use of special tools.
- Opposed blade damper (OBD) operator is easily adjusted through face with a screw driver.
- The unit achieves an effective area of 80% with the blades set at 0° pattern thus eliminating high velocity and pressure drop at the grille face. Wider deflection with reduced throw may be achieved at the 22½° and 45° blade settings with only slightly increased noise levels.
- Standard finish is white color for frame and blades. Damper in black color. Painted under electrostatic polyester powder coated system. Other colors available on request. The polyester powder of highest quality are used to enhance the appearance of the units.
- Suitable for high sidewall, soffit or duct mounting, for heating, ventilating and cooling applications.

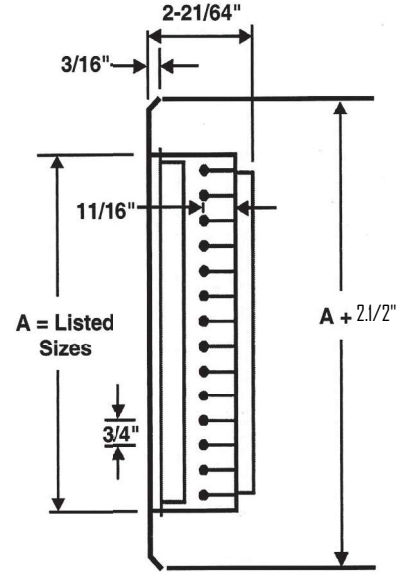
Listed Sizes

Size (inches)	CFM (range)	Size (inches)	CFM (range)	Size (inches)	CFM (range)	Size (inches)	CFM (range)
8 x 4	50-150	10 x 6	100-200	30 x 6	300-800	20 x 8	200-500
10 x 4	50-200	12 x 6	100-250	32 x 6	300-800	24 x 8	300-800
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18 x 4	100-250	18 x 6	100-250	10 x 8	100-250	30 x 8	500-800
20 x 4	100-250	20 x 6	100-300	12 x 8	100-250	32 x 8	500-800
24 x 4	100-250	24 x 6	150-400	16 x 8	150-300	36 x 8	500-1000
8 x 6	50-200	28 x 6	200-500	18 x 8	150-400	12 x 10	100-300

Size (inches)	CFM (range)	Size (inches)	CFM (range)	Size (inches)	CFM (range)	Size (inches)	CFM (range)
14 x 10	150-400	32 x 10	500-1200	24 x 12	500-1000	18 x 14	500-800
16 x 10	200-500	36 x 10	500-1300	28 x 12	500-1200	24 x 14	500-1200
18 x 10	300-800	12 x 12	150-400	30 x 12	500-1300	30 x 14	800-1400
20 x 10	300-800	14 x 12	200-500	32 x 12	500-1300	16 x 16	500-800
24 x 10	500-800	18 x 12	300-800	36 x 12	800-1400	20 x 16	500-1200
28 x 10	500-1000	18 x 12	400-800	14 x 14	300-800	24x16	500-1300
30 x 10	500-1000	20 x 12	500-800	16 x 14	400-800	30x16	800-1400



PRODUCT DESCRIPTION



- A double deflection grille providing air deflection in both horizontal and vertical planes.
- Frame and blades are extruded aluminium alloy and are polyester powder coated with a white finish.
- The frame has a typical wall thickness of 1/16" and is separated from the blades with PVC bushings. This method of assembly eliminates corrosion and vibration.
- The frame mounting holes are dimpled, allowing for a counter-sunk fastener head appearance.
- All blades are airfoil in design, individually adjustable and spaced 3/4" on center.
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18 x 4	100-250	18 x 6	100-250	10 x 8	100-250	30 x 8	500-800
20 x 4	100-250	20 x 6	100-300	12 x 8	100-250	32 x 8	500-800
24 x 4	100-250	24 x 6	150-400	16 x 8	150-300	36 x 8	500-1000
8 x 6	50-200	28 x 6	200-500	18 x 8	150-400	12 x 10	100-300

Size (inches)	CFM (range)	Size (inches)	CFM (range)	Size (inches)	CFM (range)	Size (inches)	CFM (range)
14 x 10	150-400	32 x 10	500-1200	24 x 12	500-1000	18 x 14	500-800
16 x 10	200-500	36 x 10	500-1300	28 x 12	500-1200	24 x 14	500-1200
18 x 10	300-800	12 x 12	150-400	30 x 12	500-1300	30 x 14	800-1400
20 x 10	300-800	14 x 12	200-500	32 x 12	500-1300	16 x 16	500-800
24 x 10	500-800	16 x 12	300-800	36 x 12	800-1400	20 x 16	500-1200
28 x 10	500-1000	18 x 12	400-800	14 x 14	300-800	24 x 16	500-1300
30 x 10	500-1000	20 x 12	500-800	16 x 14	400-800	30x16	800-1400

SUPPLY GRILLE AND REGISTER ENGINEERING DATA

The most important thing in any air conditioning system is that the selection of a Suitable Register or a Grille to ensure satisfactory performance. For this the following charts were given to help you in predicting performance. In making selections, sound Engineering judgement is essential as the permissible drops and noise levels can change greatly with the usage of space, location of obstacles and available clear mounting heights. So, before selection give close attention to the following considerations.

In general, the occupant should not be subjected to velocities above 50 FPM for an extended period of time as the air velocities below 15 FPM leave a feeling of stagnation and velocities above 65 FPM create drafts so these charts are based on a terminal velocity of 50 FPM in determining throw. It is assured that longer throws will be required larger drops are probably satisfactory. In more exacting applications outlets should be sized with shorter throws, smaller drops and lower noise levels.

Upto 800 FPM velometer velocity, the noise caused by the grill itself is negligible. The engineer should consider acoustical insulation, vibration etc, because the vibration through ductwork or fan noise may be transmitted to the zone of occupancy.

Considerable caution must be exercised in selecting and positioning the grille to determine that the air will not drop into the occupied zone. However, it should be also kept in mind that the other extreme of overthrow can cause objectionable down drafts of air along any wall or surface.

Generally, prescribed rule is to select a grille that will have a throw of approximately $\frac{3}{4}$ of the distance to the opposite wall with its termination at approximately six feet above the floor level as shown in the Fig. 1, below.

For sizes which are not listed, it is suggested that full particulars to be send our Engineering Department at Riyadh for recommendations.

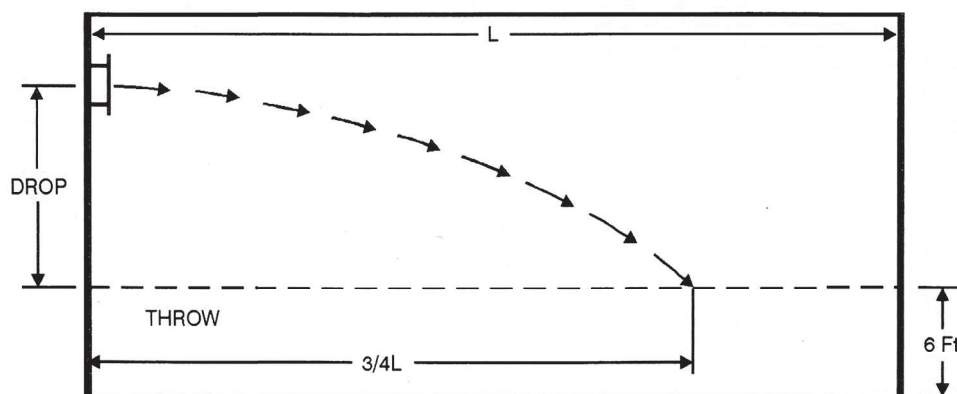


Fig. 1

SUPPLY GRILLE AND REGISTER ENGINEERING DATA

Blade Deflections

The blade deflections upon which the performance data is based are obtained by the individual adjustment in our supply grilles and registers. Altering the blade settings, drop, noise and total pressure. See Fig.2.

Guidance for Reading Tables on Following Pages:

Variable deflection settings to satisfy all air distribution requirements are obtained by individual adjustment of airfoil blades in our supply grilles and registers.

To obtain long throw and narrow air patterns use 0° and 22½° deflection.

For shorter throw and wide air patterns use upto 45° deflection, or more. Performance data shown in the selection charts on the following pages is based on double deflection grilles with vertical airfoil blades at 0°, 22½° and 45° as illustrated below.

Throw Requirement:

The basis performance data will show two throws values. The maximum throw is the distance of air travel to a point having air velocity of 50 FPM and the minimum throw is the distance of air travel to a point having air velocity of 100 FPM.

Generally, the throw distance requirement is determined from the supply air terminal to the opposite wall or to the intersection of its air stream with air being delivered from another supply air terminal.

Drop:

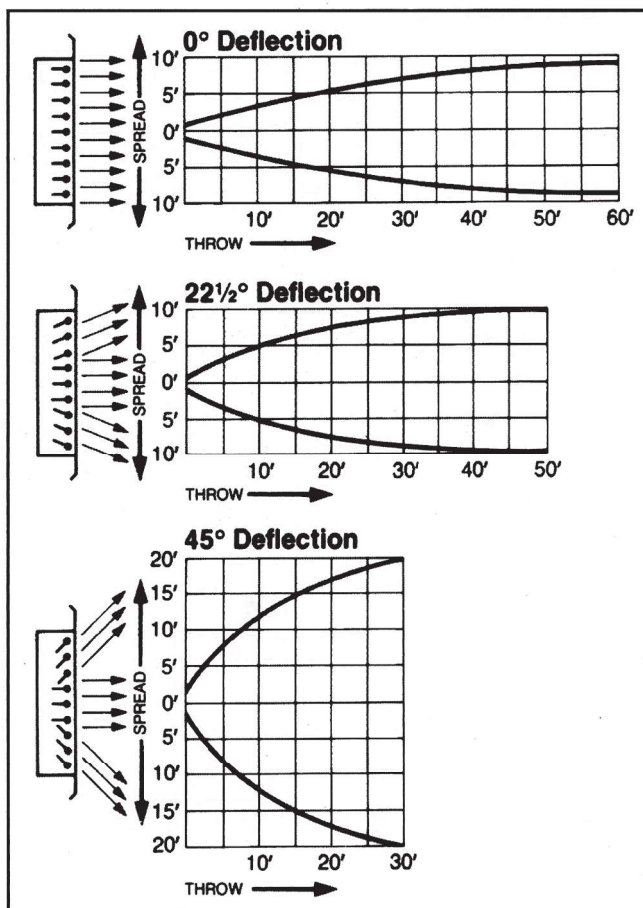
Drop is a vertical distance between the lowest horizontal plane having 50 FPM of air down stream and the centre of the core.

Velocity:

The average face velocity on the grille's surface as measured with an ANLOR Velometer with tip no. 2220A minimum of four readings should be taken at random over the face of the grille and averaged. See Fig. 3.

Total Pressure:

Total pressure is measured in inches of water gauge (w.g.). If static pressure drop is required calculate the CORE AREA = (Nominal Length - ¼) x (Nominal Width - ¼) and divide the CFM by this area to determine the CORE VELOCITY. Using this velocity, enter table 1 to find the velocity pressure subtracting velocity pressure from total pressure gives static pressure drop across the grille.



CORE VELOCITY (FPM)	VELOCITY PRESSURE (inches w.g.)
250	0.004
300	0.006
350	0.008
400	0.010
450	0.013
500	0.016
550	0.019
600	0.022
650	0.026
700	0.031
750	0.035
800	0.040

**TABLE 1 - Velocity Pressure
Conversion Chart.**

SUPPLY GRILLE AND REGISTER ENGINEERING DATA

Maximum Noise Criteria (NC) Recommendations for our supply grilles and registers.

SOUND:- The sound level of a supply grille or register is in direct ratio to the velocity of the air passing through it.

Air passing through a properly selected outlet will not add any appreciable noise to the sound level of the existing system.

APPLICATIONS:-

TYPE OF AREA	AVERAGE
Private home (rural and suburban)	25
Private home (urban)	30
Apartment house	35
Individual rooms	35
Halls, corridors, lobbies	40
Garages	45
Kitchens, laundries	45
Private rooms	30
Operating rooms	35
Wards, corridors	35
Laboratories	35
Lobbies, waiting rooms	40
Washrooms, toilets	45
Board rooms	25
Conference rooms	30
Executive offices	35
General offices	35
Reception rooms	35
General open offices	40
Drafting rooms	40
Tabulation and computation areas	45
Concert opera halls	20
Sound record studios	20
Legitimate theaters	30
Multi-purpose halls	35
Ticket sales office	35
Lounges, waiting rooms	40

TYPE OF AREA	AVERAGE
Movie theaters	35
TV audience studios	35
Lecture halls	35
Planetariums	35
Lobbies	40
Mosques	25
Libraries	35
Schools and class rooms	35
Laboratories	40
Recreation halls	40
Corridors and halls	40
Libraries, museums	35
Court rooms	35
Post offices, lobbies	40
General banking areas	40
Washrooms, toilets	45
Restaurants	40
Cafeterias	45
Clothing stores	40
Department stores (Upper floors)	40
Department stores (Main floors)	45
Small retail stores	45
Supermarkets	45
Coliseums	40
Bowling alleys	40
Gymnasiums	40
Swimming pools	45

The NC values shown in the performance data are based upon a room absorption of 10dB, and a sound power level re 10⁻¹² Watts.

ILLUSTRATIVE PROBLEM: A 20 ft. long room has ceiling height of 12 ft. with an outlet mounted 1½ ft. below the ceiling. The outlet capacity desired is 300 CFM and the noise level is not to exceed NC 20. Select the proper register and performance data.

SOLUTION:

1. The distance from the outlet to the opposite wall is 20 Ft. Assume the throw is being selected to equal 3/4 of the distance or approximately 15 ft.
2. The drop should not be excessive as it enters the occupied zone; therefore, the drop should not exceed 10½' - 6 = 4½'. If a double deflection (SH6-IID) register is used the horizontal and vertical deflection of the air can be controlled.
3. Now using the performance data chart locate 300 CFM on the vertical column marked CFM. Next moving horizontally using a throw of approximately 15', A 20" x 8" outlet with a 22½° deflection pattern is selected. This selection will give a throw of 15 ft, and total pressure of 0.011 from the performance data chart is noted that the NC sound level would not exceed NC 20.
4. If static pressure is required, it is calculated as follows :

$$\text{Core Area} = \frac{(\text{Nominal Length} - \frac{1}{4}) (\text{Nominal Width} - \frac{1}{4})}{144}$$

$$= \frac{(20 - \frac{1}{4}) (8 - \frac{1}{4})}{144} = 1.06 \text{ Sq. ft.}$$

$$\text{Core Velocity} = \frac{\text{CFM}}{\text{Core Area}} = \frac{300 \text{ CFM}}{1.06 \text{ Sq. ft.}} = 283 \text{ FPM}$$

$$\text{From Table 1, Velocity Pressure @ 283 FPM} = 0.006$$

$$\text{Static Pressure Drop} = \text{Total Pressure} - \text{Velocity Pressure}$$

$$= 0.011 - 0.006$$

$$= 0.005" \text{ w.g.}$$

5. Selected register is our SH6-IID size 20" x 8"
 - Airflow Rate = 300 CFM
 - Static Pressure Drop = 0.005" w.g.
 - Throw = 15 ft.
 - NC = Less than 20
 - Drop = Adjustable due to selection of double deflection register.



SUPPLY GRILLE AND REGISTER PERFORMANCE DATA

LISTED SIZES

CFM	SIZES(IN.) (WIDE x HIGH)	5 x 6			8 x 5			14 x 4			14 x 5			14 x 6			24 x 4		
		8 x 4	6 x 6		10 x 4	8 x 6	12 x 4	10 x 5	10 x 6	12 x 5	16 x 4	18 x 4	12 x 6	20 x 4	16 x 5	10 x 8	16 x 6	12 x 8	20 x 5
	Deflection	0	22½	45	0	22½	45	0	22½	45	0	22½	45	0	22½	45	0	22½	45
	Ak	.16	.14	.13	.20	.18	.19	.27	.25	.23	.32	.30	.28	.36	.34	.31	.41	.40	.37
50	Velocity	315	355	385	250	280	295												
	Total Pressure	.008	.012	.013	.005	.006	.007												
	Throw	7-10	4-6	3-6	7-10	3-6	3-5												
	NC	<20	<20	<20	<20	<20	<20												
75	Velocity	470	535	575	375	415	440												
	Total Pressure	.018	.027	.029	.011	.014	.015												
	Throw	9-12	5-8	5-7	9-12	4-8	4-7												
	NC	<20	<20	<20	<20	<20	<20												
100	Velocity	625	715	770	500	555	590	370	400	435	315	330	355	280	295	325	245	250	270
	Total Pressure	.033	.048	.052	.020	.025	.027	.009	.013	.014	.006	.008	.008	.005	.006	.007	.004	.004	.004
	Throw	10-14	6-9	6-8	10-14	6-9	6-8	10-14	5-9	5-8	10-14	5-9	4-8	10-14	5-9	4-8	9-15	5-8	4-7
	NC	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
125	Velocity	780	892	960	625	695	735	463	500	545	390	415	445	345	370	405	305	315	340
	Total Pressure	.051	.075	.087	.031	.039	.042	.014	.020	.022	.009	.012	.013	.008	.009	.011	.006	.006	.006
	Throw	11-16	7-11	7-9	11-16	7-10	7-9	11-16	6-9	6-8	11-16	6-9	5-8	11-16	6-9	5-8	11-16	6-10	5-8
	NC	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
150	Velocity	940	1070	1155	750	835	882	555	600	650	480	500	535	415	440	485	365	375	405
	Total Pressure	.074	.109	.118	.045	.057	.061	.021	.028	.031	.014	.018	.019	.011	.013	.015	.008	.009	.010
	Throw	12-17	8-11	7-10	12-17	8-11	7-10	12-17	8-11	7-10	12-18	7-11	7-10	12-18	7-11	7-10	12-17	6-11	6-10
	NC	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
175	Velocity				875	972	1029	650	700	760	545	585	625	490	515	565	425	435	470
	Total Pressure				.066	.077	.083	.028	.038	.047	.020	.025	.026	.015	.018	.020	.011	.012	.014
	Throw				13-18	9-12	8-11	13-18	9-12	8-11	13-19	8-12	8-11	13-19	8-12	8-12	13-19	7-12	7-11
	NC				<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
200	Velocity				1000	1100	1175	740	800	870	635	660	715	555	590	645	490	500	540
	Total Pressure				.081	.100	.109	.037	.052	.055	.025	.032	.034	.019	.023	.027	.014	.016	.017
	Throw				14-20	9-13	8-11	14-20	9-13	8-11	14-20	9-12	8-11	14-20	9-12	8-12	14-20	8-12	7-12
	NC				<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
225	Velocity										705	750	805	625	660	725	550	565	610
	Total Pressure										.031	.041	.043	.024	.029	.034	.018	.020	.021
	Throw										15-22	10-14	9-12	15-22	10-13	9-12	15-22	9-13	8-12
	NC										<20	<20	<20	<20	<20	<20	<20	<20	<20
250	Velocity										780	835	895	695	735	805	615	625	675
	Total Pressure										.039	.050	.053	.030	.036	.042	.022	.025	.027
	Throw										16-23	11-14	10-12	16-23	11-14	10-12	16-23	10-14	9-12
	NC										<20	<20	<20	<20	<20	<20	<20	<20	<20



SUPPLY GRILLE AND REGISTER PERFORMANCE DATA

LISTED SIZES

CFM	SIZES (IN.) (WIDE x HIGH)	14 x 14			36 x 6			30 x 8			16 x 16			28 x 10			32 x 10			36 x 10								
		20 x 10	20 x 10	34 x 6	18 x 12	22 x 10	28 x 8	16 x 14	24 x 10	18 x 14	48 x 5	20 x 12	32 x 8	20 x 14	48 x 6	36 x 8	24 x 12	30 x 10	20 x 16	40 x 8	18 x 18	28 x 12	24 x 14	30 x 12	20 x 18	48 x 8	32 x 12	24 x 16
	Deflection	0	22½	45	0	22½	45	0	22½	45	0	22½	45	0	22½	45	0	22½	45	0	22½	45	0	22½	45	0	22½	45
	Ak	.82	.76	.69	.94	.88	.79	1.06	.98	.90	1.22	1.14	1.03	1.38	1.29	1.16	1.51	1.42	1.28									
300	Velocity	365	395	435																								
	Total Pressure	.005	.007	.008																								
	Throw	17-24	9-16	9-14																								
	NC	<20	<20	<20																								
325	Velocity	395	430	470																								
	Total Pressure	.006	.008	.009																								
	Throw	18-26	10-17	10-15																								
	NC	<20	<20	<20																								
350	Velocity	425	460	505																								
	Total Pressure	.007	.010	.012																								
	Throw	19-27	11-17	10-15																								
	NC	<20	<20	<20																								
375	Velocity	455	495	540																								
	Total Pressure	.008	.011	.012																								
	Throw	20-28	12-18	11-16																								
	NC	<20	<20	<20																								
400	Velocity	490	525	580	425	455	505																					
	Total Pressure	.009	.013	.015	.008	.009	.011																					
	Throw	20-29	12-18	11-16	20-29	12-18	11-16																					
	NC	<20	<20	<20	<20	<20	<20																					
425	Velocity	520	560	615	452	485	540																					
	Total Pressure	.010	.015	.017	.009	.010	.012																					
	Throw	21-30	13-19	12-16	21-30	13-19	12-17																					
	NC	<20	<20	<20	<20	<20	<20																					
450	Velocity	550	590	650	480	510	570																					
	Total Pressure	.011	.016	.019	.010	.012	.014																					
	Throw	21-30	13-19	12-16	21-30	13-19	12-17																					
	NC	<20	<20	<20	<20	<20	<20																					
475	Velocity	580	625	688	505	540	600																					
	Total Pressure	.012	.018	.021	.011	.013	.016																					
	Throw	22-31	14-20	12-17	22-31	14-20	12-17																					
	NC	<20	<20	<20	<20	<20	<20																					
500	Velocity	610	680	725	530	570	635	470	510	555	400	430	490	360	390	430	330	350	380									
	Total Pressure	.013	.019	.023	.012	.014	.017	.010	.011	.014	.006	.007	.009	.005	.006	.007	.004	.005	.006									
	Throw	23-32	14-20	12-17	23-32	14-20	12-18	23-32	14-20	12-18	22-32	12-20	12-18	22-32	12-20	11-18	22-31	12-20	11-18									
	NC	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20									
550	Velocity	670	725	795	585	625	695	520	560	610	430	460	515	400	425	475	365	385	430									
	Total Pressure	.016	.024	.029	.015	.017	.021	.012	.014	.017	.007	.008	.010	.006	.007	.008	.005	.006	.007									
	Throw	24-34	15-21	13-18	24-34	15-21	13-18	23-34	15-21	13-18	23-33	13-20	13-18	23-33	13-20	12-18	23-33	13-20	12-18									
	NC	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20									

SUPPLY GRILLE AND REGISTER PERFORMANCE DATA

LISTED SIZES

CFM	SIZES (IN.) (WIDE x HIGH)	22 x 8			24 x 8			14 x 14			36 x 6			30 x 8			16 x 16			28 x 10			32 x 10		
		36 x 5	16 x 12		20 x 10			18 x 12			22 x 10			24 x 10			20 x 14			20 x 14			20 x 16		
	Deflection	0	22½	45	0	22½	45	0	22½	45	0	22½	45	0	22½	45	0	22½	45	0	22½	45	0	22½	45
	Ak	.82	.72	.63	.85	.76	.69	.94	.88	.79	1.06	.98	.90	1.22	1.14	1.03	1.38	1.29	1.16						
600	Velocity	720	835	950	705	790	870	640	680	760	565	610	665	460	515	590	435	465	515						
	Total Pressure	.028	.036	.042	.019	.028	.034	.018	.021	.025	.014	.016	.021	.009	.010	.012	.007	.008	.010						
	Throw	25-35	15-22	14-19	25-35	16-22	14-19	25-35	15-22	14-19	24-35	15-22	14-19	24-34	15-22	14-19	24-34	15-22	14-19						
	NC	22	23	23	21	22	22	20	20	20	<20	<20	<20	<20	<20	<20	<20	<20	<20						
650	Velocity	785	900	1030	765	855	940	690	740	825	615	665	720	510	585	650	470	505	560						
	Total Pressure	.031	.042	.051	.022	.033	.039	.021	.025	.029	.016	.019	.025	.010	.011	.015	.008	.009	.012						
	Throw	25-36	16-23	15-21	26-37	17-24	15-20	26-37	16-23	15-20	26-37	16-23	15-20	25-35	16-23	14-20	25-35	16-23	14-20						
	NC	24	26	27	24	25	25	23	23	23	22	23	23	22	23	21	<20	<20	<20						
700	Velocity	845	970	1110	825	920	1015	745	795	885	660	715	780	595	635	690	505	545	605						
	Total Pressure	.039	.049	.053	.026	.037	.045	.024	.028	.034	.019	.021	.028	.012	.013	.017	.009	.011	.014						
	Throw	26-38	17-24	15-21	27-38	17-24	15-21	27-38	17-24	15-21	26-38	17-23	15-20	27-39	17-24	15-21	27-39	17-24	15-21						
	NC	26	27	29	26	27	27	25	25	26	24	24	24	23	23	23	20	20	20						
750	Velocity	905	1040	1190	880	985	1090	800	855	950	710	765	830	615	660	730	545	580	645						
	Total Pressure	.045	.060	.061	.029	.042	.052	.027	.032	.039	.022	.024	.032	.013	.014	.019	.010	.012	.016						
	Throw	28-40	18-25	16-22	28-40	18-26	16-22	28-40	18-25	16-22	28-40	18-24	16-21	28-40	18-25	16-22	29-40	18-25	16-22						
	NC	29	30	32	29	29	31	28	28	29	27	27	28	25	25	26	23	22	22						
800	Velocity	965	1110	1230	940	1055	1160	850	910	1015	755	815	890	690	720	780	580	620	690						
	Total Pressure	.051	.064	.069	.034	.048	.058	.032	.036	.044	.025	.028	.037	.016	.017	.022	.012	.014	.018						
	Throw	29-43	18-25	16-22	29-43	18-25	16-22	28-42	18-25	16-22	28-40	18-24	16-21	29-41	18-26	16-22	29-41	18-28	16-22						
	NC	31	32	33	31	31	32	29	30	30	28	28	28	27	27	27	24	25	25						
900	Velocity													740	795	865	650	700	775						
	Total Pressure													.020	.022	.028	.015	.017	.022						
	Throw													30-43	19-27	17-23	30-43	19-28	17-23						
	NC													30	30	30	26	29	29						
1000	Velocity													830	880	965	725	775	860						
	Total Pressure													.025	.027	.034	.018	.021	.028						
	Throw													32-46	20-28	17-25	32-46	20-28	18-25						
	NC													34	34	34	32	32	32						
1100	Velocity																795	855	950						
	Total Pressure																.022	.026	.033						
	Throw													33-47	21-30	18-26	33-47	21-30	18-26						
	NC													35	35	36	35	35	36						
1200	Velocity																870	930	1035						
	Total Pressure																.026	.030	.040						
	Throw													35-49	22-31	19-27	35-49	22-31	19-27						
	NC													38	38	38	38	38	38						



SUPPLY GRILLE AND REGISTER PERFORMANCE DATA

LISTED SIZES

CFM	SIZES (IN.) (WIDE x HIGH)	36 x 10			28 x 14			30 x 14			30 x 16			50 x 10			24 x 24		
		30 x 12	20 x 18	48 x 8	22 x 18	20 x 20	40 x 10	24 x 18	36 x 12	40 x 12	48 x 10	60 x 8	42 x 12	36 x 14	28 x 18	32 x 16	36 x 16	48 x 12	72 x 8
	Deflection	0	22½	45	0	22½	45	0	22½	45	0	22½	45	0	22½	45	0	22½	45
	Ak	1.51	1.42	1.28	1.75	1.64	1.47	1.81	1.70	1.52	2.00	1.88	1.69	2.12	2.00	1.79	2.48	2.34	2.10
600	Velocity	395	425	470															
	Total Pressure	.006	.007	.008															
	Throw	25-34	13-22	13-19															
	NC	<20	<20	<20															
650	Velocity	430	460	510															
	Total Pressure	.007	.008	.009															
	Throw	26-38	15-22	14-20															
	NC	<20	<20	<20															
700	Velocity	465	495	545	400	425	475												
	Total Pressure	.008	.009	.011	.006	.007	.008												
	Throw	26-40	16-24	15-21	26-38	17-24	14-21												
	NC	<20	<20	<20	<20	<20	<20												
750	Velocity	495	530	585	430	455	510												
	Total Pressure	.009	.010	.013	.007	.008	.009												
	Throw	28-41	17-25	16-21	28-39	17-25	14-21												
	NC	21	21	22	20	20	21												
800	Velocity	530	565	625	460	485	545	440	470	525	400	425	475						
	Total Pressure	.010	.012	.014	.008	.009	.010	.006	.007	.009	.005	.006	.007						
	Throw	29-41	18-25	16-22	28-40	18-26	15-22	29-41	17-25	15-22	28-40	16-25	15-22						
	NC	23	24	24	22	23	23	21	22	22	20	20	20						
900	Velocity	595	635	705	515	550	610	495	530	590	450	480	535	425	450	500			
	Total Pressure	.012	.015	.018	.010	.011	.013	.008	.009	.012	.006	.007	.009	.005	.006	.008			
	Throw	30-43	19-27	17-23	30-43	19-27	16-24	30-43	18-27	17-23	30-42	18-27	17-23	30-42	18-27	16-23			
	NC	27	28	28	26	27	27	25	25	25	24	24	24	23	23	23			
1000	Velocity	660	705	780	570	610	680	550	590	670	500	530	590	470	500	560			
	Total Pressure	.015	.018	.022	.012	.013	.016	.010	.011	.014	.008	.009	.011	.006	.007	.010			
	Throw	32-45	20-28	18-25	32-45	20-29	18-25	32-45	20-28	18-25	32-45	19-28	18-26	32-45	20-29	18-25			
	NC	31	31	31	30	30	30	28	29	29	27	27	27	25	25	25			
1100	Velocity	730	775	860	630	670	750	610	645	725	550	585	650	520	550	615	445	470	525
	Total Pressure	.019	.022	.027	.015	.016	.019	.012	.014	.017	.010	.011	.013	.007	.008	.012	.005	.006	.009
	Throw	33-48	21-29	19-26	33-47	21-30	18-26	34-48	21-29	19-26	33-47	20-29	19-27	33-47	21-30	18-26	33-47	21-30	18-26
	NC	34	34	34	33	33	33	32	32	32	30	31	31	28	29	29	24	25	25

SUPPLY GRILLE AND REGISTER PERFORMANCE DATA

LISTED SIZES

CFM	SIZES (IN.) (WIDE x HIGH)	36 x 10			28 x 14			30 x 14			30 x 16			50 x 10			24 x 24		
		30 x 12	20 x 18	48 x 8	22 x 18	20 x 20	40 x 10	24 x 18	36 x 12	40 x 12	48 x 10	60 x 8	42 x 12	36 x 14	28 x 18	32 x 16	36 x 16	48 x 12	72 x 8
	Deflection	0	22½	45	0	22½	45	0	22½	45	0	22½	45	0	22½	45	0	22½	45
	Ak	1.5	1.42	1.28	1.75	1.64	1.47	1.81	1.70	1.52	2.00	1.88	1.69	2.12	2.00	1.79	2.48	2.34	2.10
1200	Velocity	795	845	940	685	730	815	665	705	790	600	640	710	565	600	670	485	510	570
	Total Pressure	.022	.026	.032	.018	.019	.022	.014	.016	.020	.011	.013	.016	.008	.009	.014	.006	.007	.011
	Throw	36-50	22-31	19-27	35-49	22-31	19-27	35-50	22-31	19-27	35-49	22-31	19-28	35-49	22-31	19-27	35-49	22-31	19-27
	NC	37	37	37	36	36	36	35	35	35	34	34	34	31	32	32	26	27	27
1300	Velocity	860	915	1015	740	790	885	720	765	855	650	690	770	615	650	725	525	555	620
	Total Pressure	.026	.031	.038	.021	.022	.026	.017	.019	.024	.013	.015	.019	.009	.011	.016	.007	.008	.013
	Throw	37-51	23-32	20-28	36-51	23-32	20-28	36-51	23-32	20-28	36-51	23-32	20-29	36-51	23-33	20-28	36-51	23-33	20-28
	NC	39	39	40	38	38	38	37	37	37	36	36	36	34	34	34	28	29	29
1400	Velocity							775	825	920	700	745	830	660	700	780	565	600	665
	Total Pressure							.019	.022	.027	.016	.018	.022	.010	.013	.018	.008	.009	.015
	Throw							38-53	24-33	21-29	37-53	24-33	21-30	38-53	24-33	20-30	37-53	24-33	20-29
	NC							40	40	40	39	38	38	36	37	37	30	31	31
1500	Velocity													705	750	835	605	640	715
	Total Pressure													.011	.015	.021	.009	.010	.017
	Throw													39-55	25-35	21-30	39-55	25-35	21-30
	NC													38	40	40	32	33	33
1600	Velocity													755	800	895	645	685	760
	Total Pressure													.013	.017	.024	.010	.011	.019
	Throw													40-57	26-36	22-31	40-57	26-36	22-31
	NC													41	43	43	34	35	35
1700	Velocity													800	850	950	685	725	810
	Total Pressure													.015	.019	.027	.011	.012	.021
	Throw													41-58	27-38	23-32	41-58	26-37	22-32
	NC													44	46	46	36	37	37
1800	Velocity													850	900	1005	725	770	855
	Total Pressure													.017	.021	.030	.012	.013	.023
	Throw													42-60	27-38	23-33	42-60	27-38	23-33
	NC													47	49	49	38	39	39
1900	Velocity																765	810	905
	Total Pressure													.013	.014	.026	.010	.011	.020
	Throw													44-62	28-40	24-34	44-62	28-40	24-34
	NC													40	41	41	34	35	35
2000	Velocity																805	855	950
	Total Pressure													.014	.015	.029	.011	.012	.021
	Throw													45-63	29-40	25-35	45-63	29-40	25-35
	NC													42	43	43	36	37	37
2400	Velocity																965	1025	1140
	Total Pressure													.020	.022	.042	.015	.016	.029
	Throw													49-69	31-44	27-38	49-69	31-44	27-38
	NC													50	>50	>50	40	41	41
2800	Velocity																1130	1195	1335
	Total Pressure													.027	.030	.057	.018	.019	.034
	Throw													53-75	34-48	29-41	53-75	34-48	29-41
	NC													>50	>50	>50	42	43	43
3200	Velocity																1290	1365	1525
	Total Pressure													.035	.039	.074	.020	.021	.039
	Throw													67-80	36-51	31-44	67-80	36-51	31-44
	NC													>50	>50	>50	40	41	41
				Ak is Area Factor Throw Data based upon isothermal air at 100 and 50 FPM Terminal Velocity															
				TOTAL PRESSURE ARE IN INCHES OF WATER N.C. VALUE ARE BASED ON A ROOM ABSORPTION OF 10dB, re 10 ⁻¹² WATTS															

BALANCING DATA

Step 1 : To determine CFM of the Supply Grille or Register, an Alnor Velometer with Tip No. 2220A is used.

Step 2 : Locate velometer jet in the air stream as shown in the figure below. Take a minimum of four velocity readings at random across the grille face and average them to determine the velocity.

Step 3 : From the performance table select proper Ak factor for the size of supply grille or register tested. Using the following formula, calculate the air flow rate:

$$\text{CFM} = \text{Ak} \times \text{Average Velocity.}$$

EXAMPLE:

Determine the CFM through a 12" x 12" SV6-II. The blades are set for a 45° deflection pattern. The instrument to be used is an Alnor Velometer with a 2220A Tip.

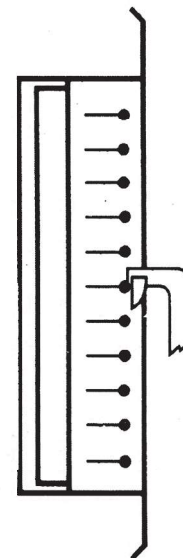
SOLUTION:

1. Position the Alnor Velometer with a 2220A tip as shown in the fig. and find velocity at a minimum of 4 points at random. (Suppose the average velocity is found to be 300 FPM)

2. From the performance table select Ak factor for the given size 45° deflection blade setting.

$$\text{Ak} = 0.52 \text{ Sq. ft.}$$

3. CFM = Ak x Ave. measured velocity.
 = 0.52 sq. ft. x 300 fpm
 = 155 cfm.

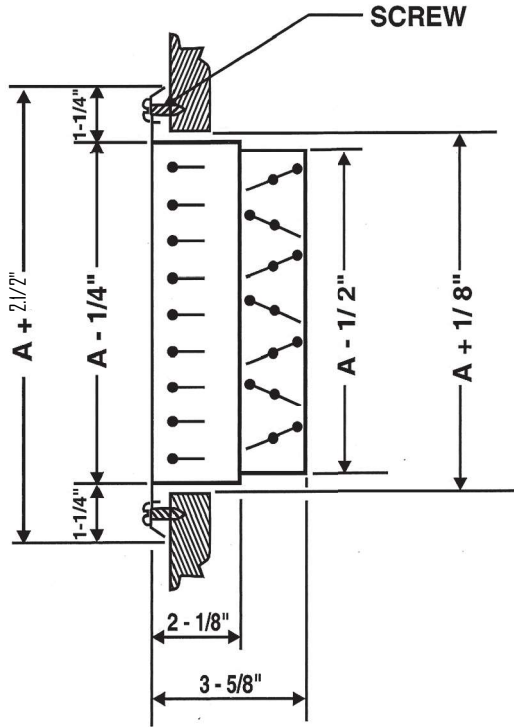


To determine velocity using ALNOR with Tip No. 2220A

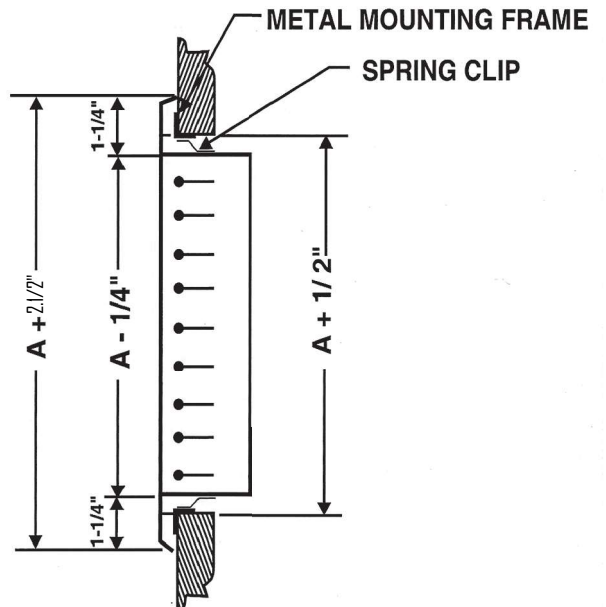
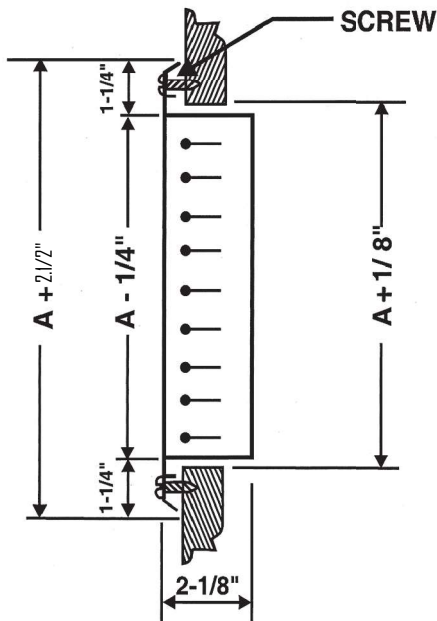
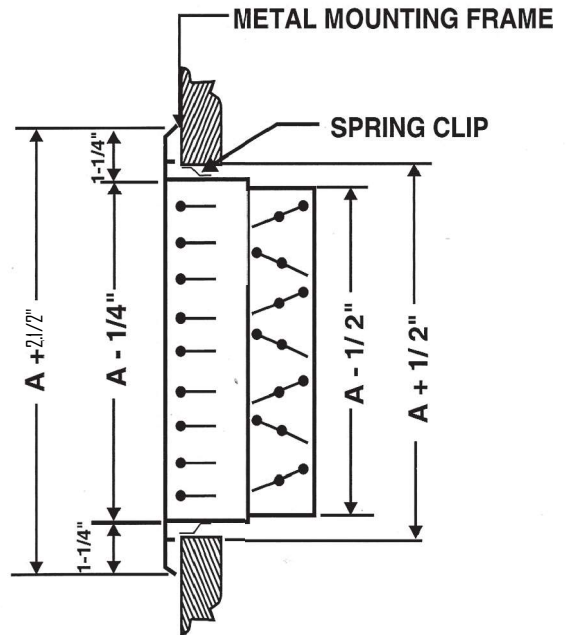
Fig. 3

INSTALLATION DETAILS

FACE SCREW MOUNTING
(Wall & Ceiling Mounting)



SPRING CLIP MOUNTING
(Wall Mounting)



A - LISTED SIZES (W x H)