LOUVERED FACE — RETURN AIR

45° DEFLECTION, 3/4" (19) BLADE SPACING

The blades are fixed at a 45° angle. This grille is vision proof when installed in a low or high sidewall location with grille blade deflection facing away from the line of sight. In addition, a diverse selection of mounting frames are available to suit many suspended ceiling designs.

Aluminum – Models 5145V, 5145H **Page F28**
Suffix '-O' adds a steel OBD
Suffix '-OA' adds an aluminum OBD

Aluminum – Fineline® – Model 5145F **Page F31**
Suffix '-O' adds a steel OBD
Suffix '-OA' adds an aluminum OBD

Steel – Models 6145V, 6145H **Page F34**
Suffix '-O' adds a steel OBD

Steel – Fineline® – Model 6145F **Page F36**
Suffix '-O' adds a steel OBD

Stainless Steel – Models 6745V, 6745H **Page F39**
Suffix '-O' adds a stainless steel OBD

Models 6145H, 6745H

Models 5155H, 6755H

45° DEFLECTION, 1/2" (13) BLADE SPACING

The blades are fixed at a 45° angle. This grille is vision proof when installed in a low or high sidewall location with the grille blade deflection facing away from the line of sight, and when viewed from straight ahead. In addition, a diverse selection of mounting frames are available to suit many suspended ceiling designs.

Aluminum – Models 5155V, 5155H **Page F32**
Suffix '-O' adds a steel OBD
Suffix '-OA' adds an aluminum OBD

Steel – Models 6155V, 6155H **Page F37**
Suffix '-O' adds a steel OBD

Stainless Steel – Models 6755V, 6755H **Page F40**
Suffix '-O' adds a stainless steel OBD

0° DEFLECTION, 3/4" (19) BLADE SPACING

The blades are fixed at 0°. Their appearance complements the supply grilles and registers of the same series. In addition, a diverse selection of mounting frames are available to suit many suspended ceiling designs.

Aluminum – Models 51FV, 51FH **Page F29**
Suffix '-O' adds a steel OBD
Suffix '-OA' adds an aluminum OBD

Steel – Models 61FV, 61FH **Page F35**
Suffix '-O' adds a steel OBD

Stainless Steel – Models 67FV, 67FH **Page F39**
Suffix '-O' adds a stainless steel OBD

Models 51FH, 67FH

EXCLUSIVE WARRANTY FOR NAILOR STEEL GRILLES, REGISTERS AND DIFFUSERS

LIMITED WARRANTY – SERIES 61C, 6100, 61EC, 61F, RNS, RNS2, UNI, 4300, 6500, 7500 AND 61CC

Nailor Industries Inc. ('Nailor') warrants to the original and each subsequent owner of a new Nailor Series Grille, Register or Ceiling Air Diffuser in the model series titled above, constructed of corrosion-resistant steel with a factory applied paint finish that should rust become visible on the exposed portion of any individual product covered by this agreement Nailor will replace the rusted unit. Any diffuser affected by chemicals or misuse, including, without limitation, the failure to perform reasonable and necessary maintenance, will not be covered by this warranty. This warranty is for sixty (60) months from the date of the shipment by Nailor.

This warranty gives you specific legal rights and you may also have other rights which vary from state to state.

The rusted unit will be shipped by the owner at its cost to Nailor for replacement. The cost of the replacement, including the cost of shipment to the owner, but excluding any costs for either the removal or preparation for shipment of the rusted unit and the re-installation of the replacement unit, will be borne by Nailor. A reasonable time should be allowed after shipment to Nailor for the replacement of the rusted unit.

This is the only warranty given with the purchase. Any warranties implied by law are limited to sixty (60) months from the date of shipment by Nailor. Nailor neither assumes nor authorizes any person to assume for it any other liability in connection with any diffuser covered by this agreement.

No payment or other compensation will be made for indirect or consequential damage such as, damage or injury to person or property or loss of revenue or profit which might be paid, incurred or sustained by reason of the use or inability to use a Nailor product listed above, even if such loss or damage could have been foreseen by Nailor.

Some states do not allow the exclusion of limitation of incidental or consequential damages or limitation on how long an implied warranty lasts, so the above may not apply to you.

ALUMINUM RETURN GRILLES AND REGISTERS

- FIXED 45° OR 0° BLADE DEFLECTION
- 3/4" (19) SPACING

Models:

5145H, 5145V, 51FH and 51FV

- **Suffix '-O' adds a steel opposed blade damper**
- **Suffix '-OA' adds an aluminum opposed blade damper**

Model 5145H

Models 5145H and 51FH Return Grilles and Registers have fixed horizontal blades (parallel to width/first specified dim.) spaced on 3/4" (19) centers with 45° or 0° straight face deflection.

Models 5145V and 51FV Return Grilles and Registers have fixed vertical blades (parallel to height/second specified dim.) spaced on 3/4" (19) centers with 45° or 0° straight face deflection. Their appearance complements the supply grilles and registers in the 5100 Series.

The streamlined blades and open spacing maintain an effective free area average capacity of over 50% for 45° and 75% for 0°, which minimizes intake velocity, reduces inlet pressure and provides quiet operation. The smooth blade shapes do not accumulate lint and plug up. Deflected blade grilles installed in a low or high side wall location are vision-proof with the grille deflection facing away from the line of sight.

The design features a concealed rear reinforcing blade support mullion on 45° models. The grille therefore has a continuous louvered blade appearance with no visible face mullions on all single section sizes, thereby offering superior architectural appearance.

Frame/Border Type S Surface Mount – This style has a flanged frame with an overall face dimension that is 1 3/4" (44) larger than the listed duct size. It is furnished as standard with countersunk screw holes and mounting screws.

Frame/Border Type L Lay-in T-Bar – This style is similar to above, but is sized on the overall face dimension to suit standard lay-in T-Bar ceiling modules and is supplied less screw holes. It is the model of choice for ducted return air applications. The nominal duct size is 2" (51) smaller than the ceiling module. When installed, the frame/border is partially visible within the perimeter of the ceiling opening and provides a visually appealing architectural finish.

Frame/Border Type A Lay-in T-Bar, Concealed Angle Frame – This style has a narrow corrosion-resistant steel frame that surrounds the core and is invisible when installed in standard lay-in T-Bar ceilings. It is suited for non-ducted plenum return air applications. This frame also permits the attachment of an optional opposed blade damper.

Panel mounting is also available in an assortment of styles to suit most other ceiling types. Refer to page number F192 in the Options and Accessories section for further information.

STANDARD FEATURES:

- Frame/border Type S has 1 1/4" (32) wide face border with a 1" (25) overlap margin standard, furnished with countersunk screw holes and mounting screws.

NF Narrow Frame with 1" (25) face border optional. Concealed mounting is optional.

- Rigid, heavy gauge extruded frames with reinforced mitered corners.
- Streamlined shaped extruded blades on 3/4" (19) centers. Blades positively hold deflection setting under all conditions of velocity and pressure.
- Available in sizes from 4" x 4" to 48" x 48" (102 x 102 to 1219 x 1219) in single section construction. Multiple section assemblies are available.

CONSTRUCTION MATERIAL:

- High quality, extruded aluminum construction.
- Steel or aluminum integral dampers are opposed blade design with screwdriver slot operator.

FINISH OPTIONS:

- AW Appliance White finish is standard. Other finishes are available.

FASTENING OPTIONS:

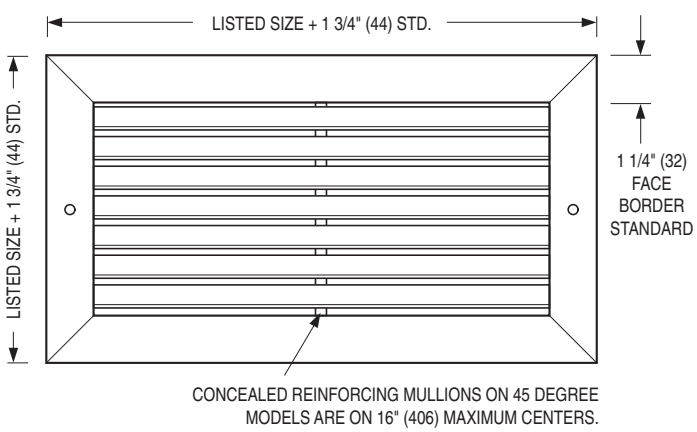
- Type A Screw Holes (default)
- Type C Concealed Mounting Straps
- Type N None

OPTIONS AND ACCESSORIES:

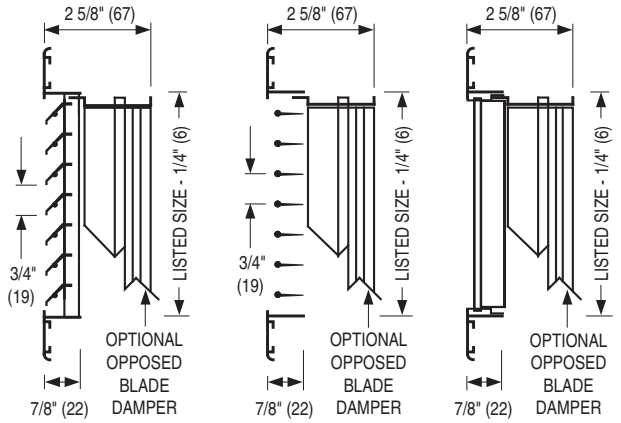
- IS Insect Screen
- PF Plaster Frame
- GK Foam Gasket
- EQT Earthquake Tabs

For additional options and accessories, see page F191.

DIMENSIONAL DATA:
5100 SERIES RETURN 3/4" (19) BLADE SPACING



Model 5145H

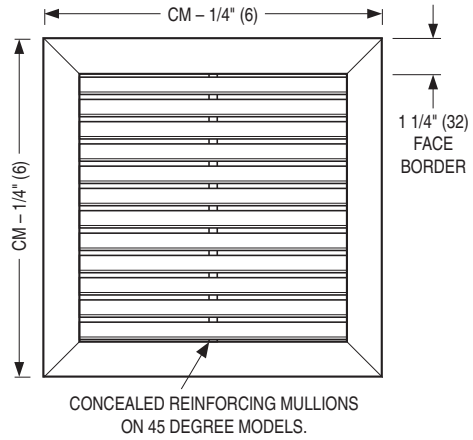


Model 5145H
Fixed 45°
Horizontal Blades

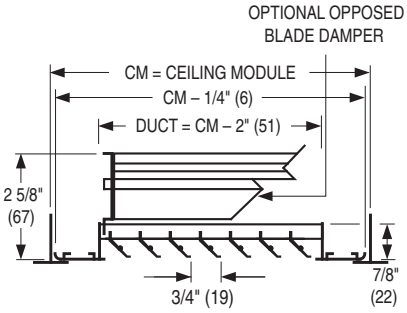
Model 51FH
Fixed 0°
Horizontal Blades

Model 51FV
Fixed 0°
Vertical Blades

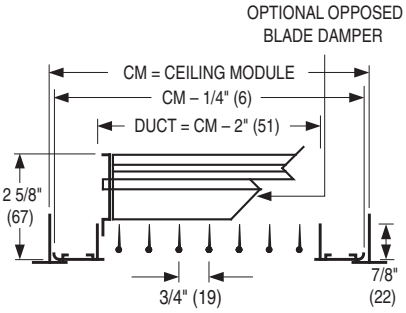
Frame/Border Type S – Surface Mount



Model 5145H

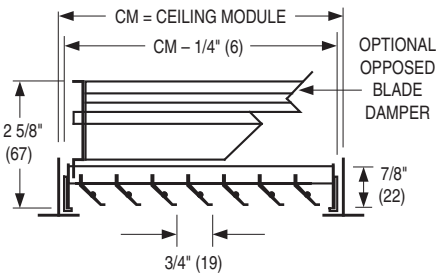


Model 5145H
Fixed 45°
Horizontal Blades



Model 51FH
Fixed 0°
Horizontal Blades

Frame/Border Type L – Lay-in T-Bar

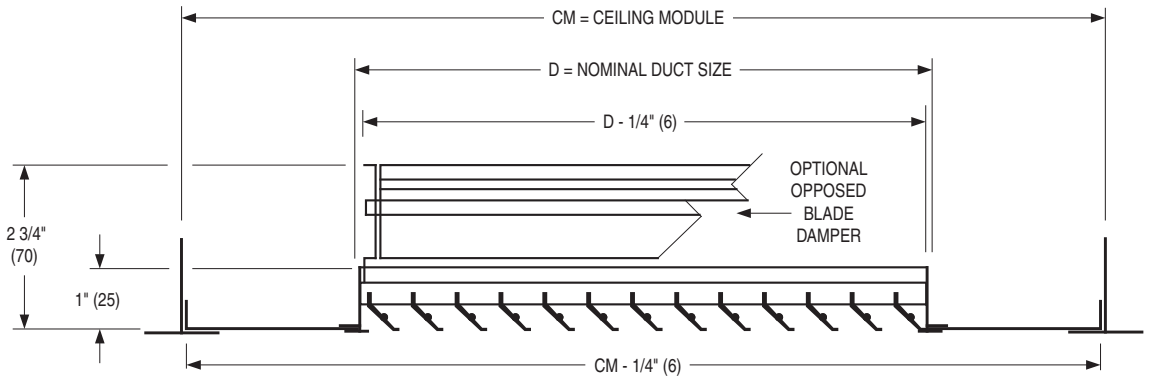


Model 5145H
Fixed 45°
Horizontal Blades

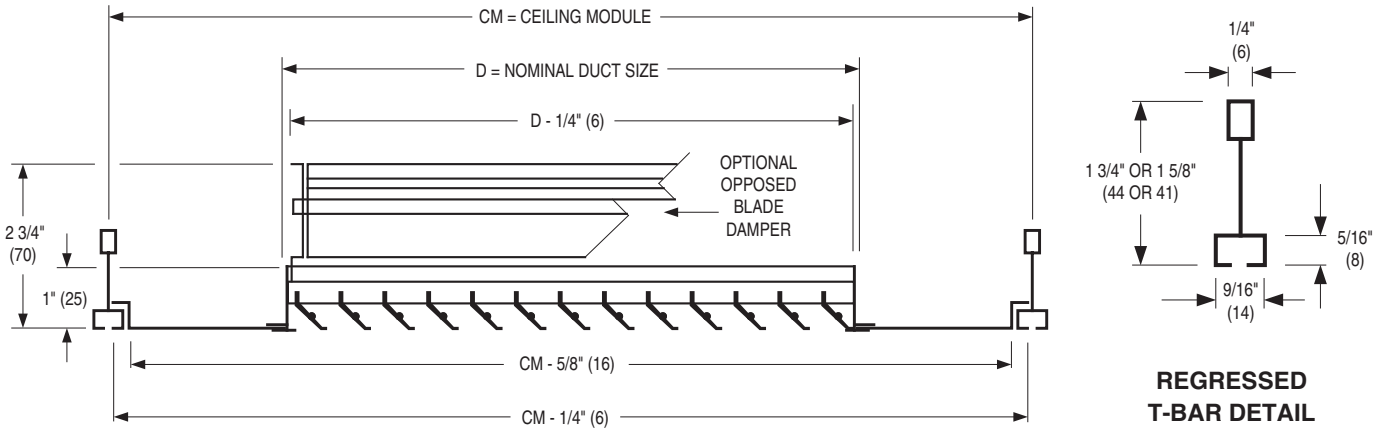
Frame/Border Type A – Lay-in T-Bar, Concealed Angle Frame

DIMENSIONAL DATA:

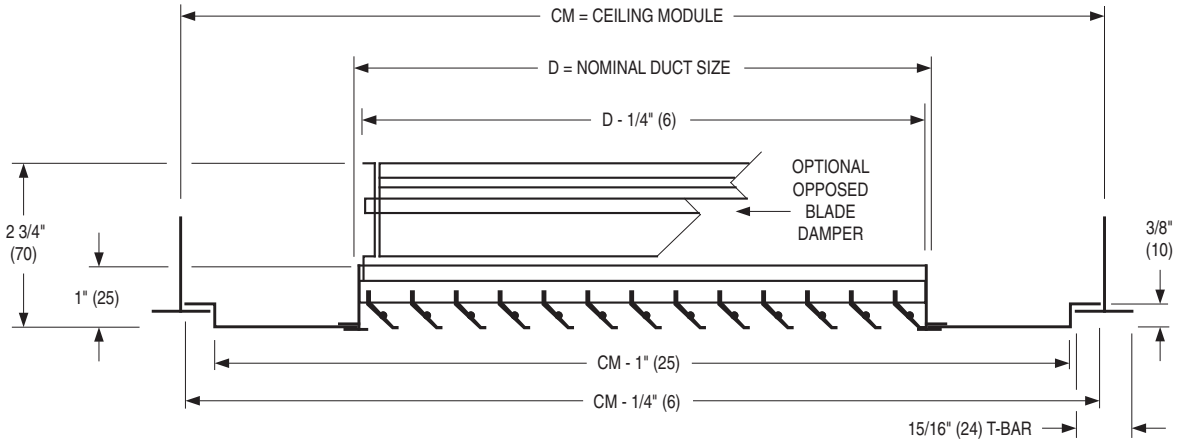
5100 SERIES RETURN 3/4" (19) BLADE SPACING



Frame/Border Type PLS or PLA – Panel Mounted – Lay-in T-Bar Type



Frame/Border Type FPS or FPA – Panel Mounted Lay-in – Narrow Regressed T-Bar Type



Frame/Border Type TPS or TPA – Tegular Panel Mounted – Lay-in T-Bar Type

Ceiling Module Size (Use only for Panel Mounting, Frame/Border Types PL, SP, MP, FP, TP)

Imperial Modules	Imperial Units (in.)	24 x 12	20 x 20	24 x 12	24 x 24	36 x 12	36 x 24	48 x 12	48 x 24
Metric Modules	S.I. Units (mm)	600 x 300	500 x 500	600 x 300	600 x 600	900 x 300	900 x 600	1200 x 300	1200 x 600

ALUMINUM RETURN GRILLES AND REGISTERS

- FIXED 45° BLADE DEFLECTION
- 3/4" (19) SPACING
- FINELINE®
- FULL FACE

Model:

5145F

- **Suffix '-O' adds a steel opposed blade damper**
- **Suffix '-OA' adds an aluminum opposed blade damper**

Model 5145F

Model 5145F Return Grilles and Registers have been specially designed for return air applications to integrate and complement "Fineline®" type suspended ceiling systems. It is suited for non-ducted plenum return air applications. The formed, corrosion-resistant steel frame with mitered corners includes a support rail on four sides, which allows for the full area of the ceiling module to be utilized. The grilles have fixed horizontal blades (parallel to width/first specified dim.) spaced on 3/4" (19) centers with 45° face deflection. Their appearance complements the supply grilles and registers in the 5100 series.

The streamlined blades and open spacing maintain an effective free area average capacity of over 50%, which minimizes outlet velocity, reduces pressure drop and assures quiet operation. The smooth blades do not accumulate lint and plug up. The design features a concealed rear reinforcing blade support mullion. The grille therefore has a continuous louvered blade appearance with no visible face mullions on all single section sizes, thereby offering superior architectural appearance.

STANDARD FEATURES:

- Available in ceiling module sizes 24" x 12" and 24" x 24" (610 x 305 and 610 x 610).
- Rigid, streamlined shaped solid blades on 3/4" (19) centers, fixed at 45° and reinforced with concealed mullion.
- Support rail on four sides, allowing full area of the ceiling module to be utilized.

CONSTRUCTION MATERIAL:

- Corrosion-resistant, formed steel frame with mitered corners construction.
- Extruded aluminum blades.
- Optional aluminum or roll-formed steel opposed blade damper with screwdriver slot operator accessible through the face of the register.

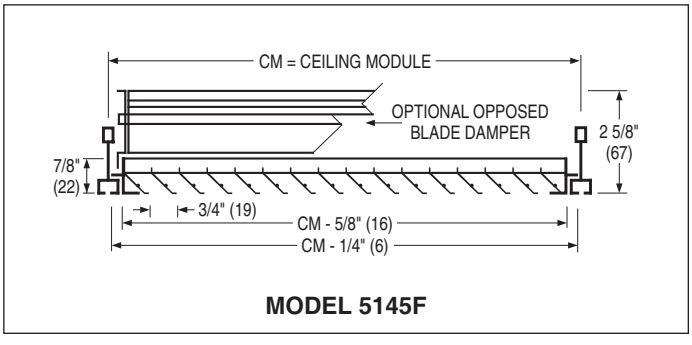
FINISH OPTIONS:

- AW Appliance White finish is standard. Other finishes are available.

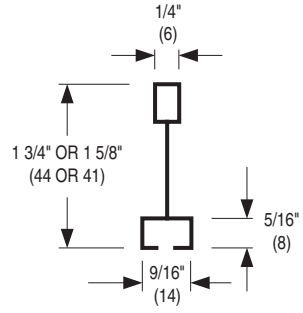
OPTIONS AND ACCESSORIES:

- IS Insect Screen
- EQT Earthquake Tabs

For additional options and accessories, see page F191.



MODEL 5145F



REGRESSED T-BAR DETAIL

Imperial Modules		Metric Modules
Imperial Units (in.)	Metric Units (mm)	S.I. Units (mm)
24 x 12	610 x 305	600 x 300
24 x 24	610 x 610	600 x 600

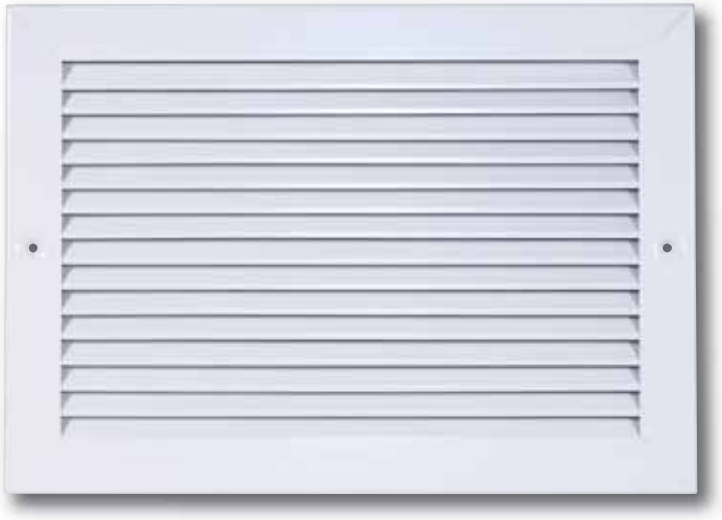
ALUMINUM RETURN GRILLES AND REGISTERS

- LOUVERED FACE
- FIXED 45° BLADE DEFLECTION
- 1/2" (13) SPACING

Models:

5155H and 5155V

- **Suffix '-O' adds a steel opposed blade damper**
- **Suffix '-OA' adds an aluminum opposed blade damper**



Model 5155H

Models 5155H and 5155V Return Grilles and Registers have fixed horizontal and vertical blades respectively, spaced on 1/2" (13) centers with a 45° fixed deflection.

The streamlined blades and open spacing maintain a minimum effective free area of 40%, which minimizes intake velocity, reduces inlet pressure and provides quiet operation. The smooth blade shapes do not accumulate lint and plug up.

The 1/2" (13) blade centers on these models provide a return grille for return air or exhaust applications which has a "no see-through" design, not only when the grille is viewed with the blade deflection facing away from the line of sight, but also when viewed from straight ahead.

The design features a concealed rear reinforcing blade support mullion. The grille therefore has a continuous louvered blade appearance with no visible face mullions on all single section sizes, thereby offering superior architectural appearance.

Frame/Border Type S Surface Mount – This style has a flanged frame with an overall face dimension that is 1 3/4" (44) larger than the listed duct size. It is furnished as standard with countersunk screw holes and mounting screws.

Frame/Border Type L Lay-in T-Bar – This style is similar to above, but is sized on the overall face dimension to suit standard lay-in T-Bar ceiling modules and is supplied less screw holes. It is the model of choice for ducted return air applications. The nominal duct size is 2" (51) smaller than the ceiling module. When installed, the frame/border is partially visible within the perimeter of the ceiling opening and provides a visually appealing architectural finish.

Frame/Border Type A Lay-in T-Bar, Concealed Angle Frame – This style has a narrow corrosion-resistant steel frame that surrounds the core and is invisible when installed in standard lay-in T-Bar ceilings. It is suited for non-ducted plenum return air applications. This frame also permits the attachment of an optional opposed blade damper.

Panel mounting is also available in an assortment of styles to suit most other ceiling types. Refer to page number F194 in the Options and Accessories section for further information.

STANDARD FEATURES:

- Frame/border Type S has 1 1/4" (32) wide face border with a 1" (25) overlap margin standard, furnished with Type A countersunk screw holes and mounting screws.

Narrow Frame with 1" (25) face border optional.

- Rigid, heavy gauge extruded frames with reinforced mitered corners.
- Streamlined shaped solid blades on 1/2" (13) centers. Blades positively hold deflection setting under all conditions of velocity and pressure.
- Available in sizes from 4" x 4" to 48" x 48" (102 x 102 to 1219 x 1219).

CONSTRUCTION MATERIAL:

- High quality, extruded aluminum construction.
- Steel or aluminum integral dampers are opposed blade design with screwdriver operator.

FINISH OPTIONS:

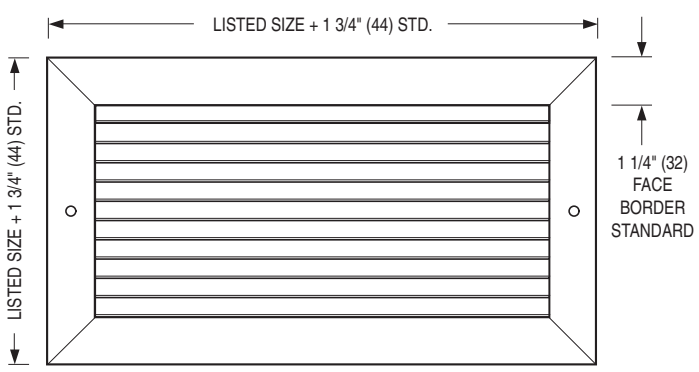
- AW Appliance White finish is standard. Other finishes are available.

OPTIONS AND ACCESSORIES:

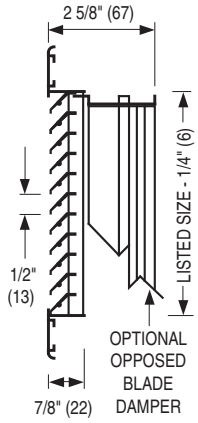
- IS Insect Screen
- PF Plaster Frame
- GK Foam Gasket
- EQT Earthquake Tabs

For additional options and accessories, see page F191.

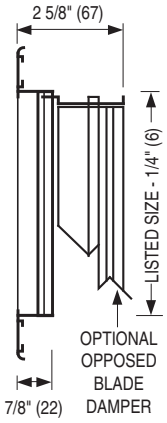
DIMENSIONAL DATA:
5100 SERIES RETURN 1/2" (13) BLADE SPACING



Model 5155H

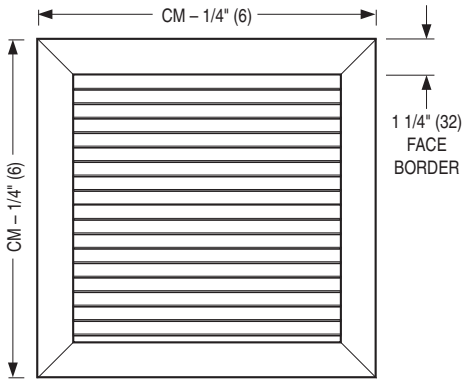


Model 5155H
Fixed 45°
Horizontal Blades

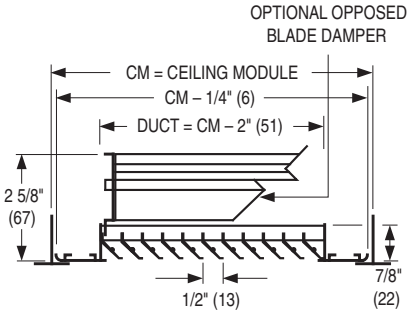


Model 5155V
Fixed 45°
Vertical Blades

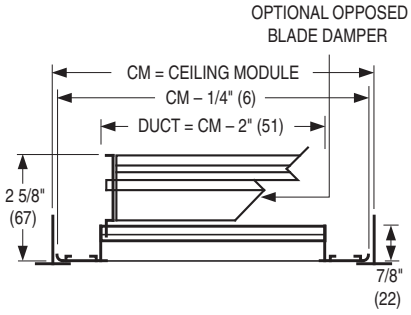
Frame/Border Type S – Surface Mount



Model 5155H

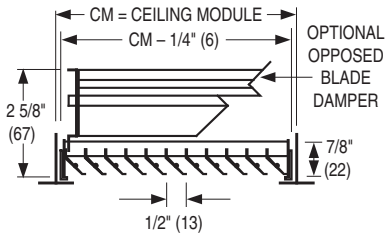


Model 5155H
Fixed 45°
Horizontal Blades



Model 5155V
Fixed 45°
Vertical Blades

Frame/Border Type L – Lay-in T-Bar



Model 5155H
Fixed 45°
Horizontal Blades

Frame/Border Type A – Lay-in T-Bar, Concealed Angle Frame

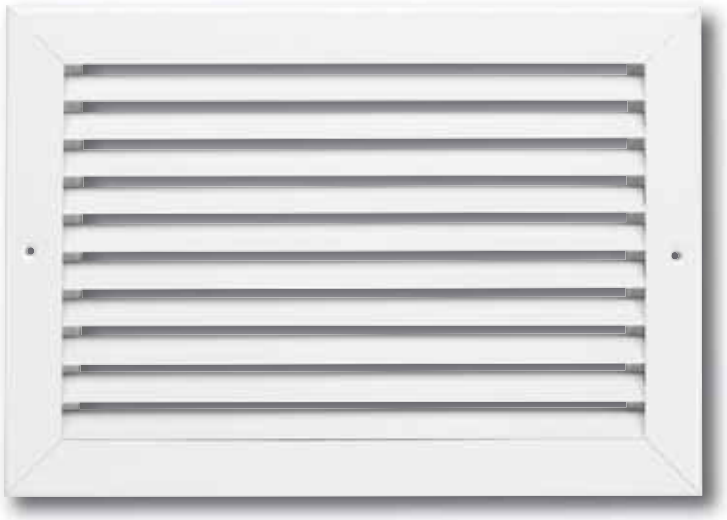
STEEL RETURN GRILLES AND REGISTERS

- FIXED 45° OR 0° BLADE DEFLECTION
- 3/4" (19) SPACING

Models:

6145H, 6145V, 61FH and 61FV

- **Suffix '-O' adds a steel opposed blade damper**



Model 6145H

Models 6145H and 61FH Return Grilles and Registers have fixed horizontal blades (parallel to width/first specified dimension) spaced on 3/4" (19) centers with 45° or 0° straight face deflection.

Models 6145V and 61FV Return Grilles and Registers have fixed vertical blades (parallel to height/second specified dim.) spaced on 3/4" (19) centers with 45° or 0° straight face deflection. Their appearance complements the supply grilles and registers in the 6100 Series.

The streamlined blades and open spacing maintain a minimum effective free area of 50% for 45° and 75% for 0°, which minimizes intake velocity, reduces inlet pressure and provides quiet operation. The smooth blade shapes do not accumulate lint and plug up. Deflected blade grilles installed in a low or high side wall location are vision-proof with the grille blade deflection facing away from the line of sight. Concealed blade support mullions on 45° models provide a continuous louvered blade appearance on all single section sizes, thereby offering superior architectural appearance.

Frame/Border Type S Surface Mount – This style has a flanged frame with an overall face dimension that is 1 3/4" (44) larger than the listed duct size. It is furnished as standard with countersunk screw holes and mounting screws.

Frame/Border Type L Lay-in T-Bar – This style is similar to above, but is sized on the overall face dimension to suit standard lay-in T-bar ceiling modules and is supplied less screw holes. It is the model of choice for ducted return air applications. The nominal duct size is 2" (51) smaller than the ceiling module. When installed, the frame/border is partially visible within the perimeter of the ceiling opening and provides a visually appealing architectural finish.

Frame/Border Type A Lay-in T-Bar, Concealed Angle Frame – This style has a narrow corrosion-resistant steel frame that surrounds the core and is invisible when installed in standard lay-in T-Bar ceilings. It is suited for non-ducted plenum return air applications. This frame also permits the attachment of an optional opposed blade damper.

Panel mounting is also available in an assortment of styles to suit most other ceiling types. Refer to page number F194 in the Options and Accessories section for further information.

STANDARD FEATURES:

- Frame/border Type S has 1 1/4" (32) wide face border with a 1" (25) overlap margin standard, furnished with countersunk screw holes and mounting screws. Concealed mounting is optional.
- Rigid, roll-formed frames with reinforced mitered corners.
- Streamlined shaped roll-formed blades on 3/4" (19) centers. Blades positively hold deflection setting under all conditions of velocity and pressure.
- Available in sizes from 4" x 4" to 48" x 36" (102 x 102 to 1219 x 914) in single section construction. Multiple section assemblies are available.

CONSTRUCTION MATERIAL:

- Cost effective, corrosion-resistant, steel construction.
- Integral dampers - roll-formed steel blades. Opposed blade design with screwdriver slot operator.

FINISH OPTIONS:

- AW Appliance White finish is standard. Other finishes are available.

FASTENING OPTIONS:

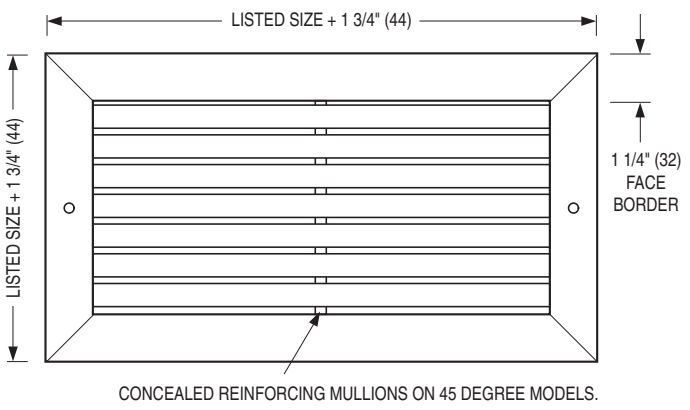
- Type A Screw Holes (default)
- Type C Concealed Mounting Straps
- Type N None

OPTIONS AND ACCESSORIES:

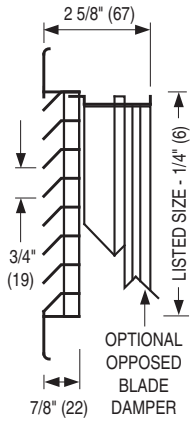
- IS Insect Screen
- PF Plaster Frame
- GK Foam Gasket
- EQT Earthquake Tabs

For additional options and accessories, see page F191.

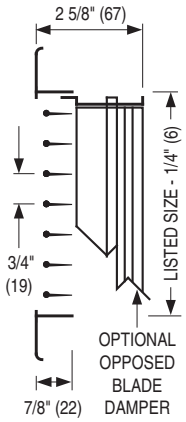
DIMENSIONAL DATA:
6100 SERIES RETURN 3/4" (19) BLADE SPACING



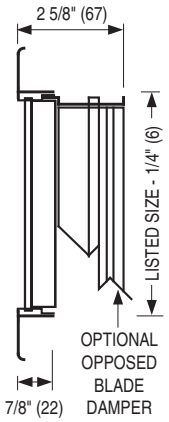
Model 6145H



Model 6145H
Horizontal Blades

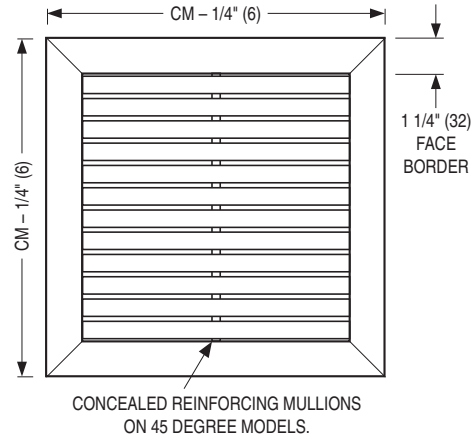


Model 61FH
Horizontal Blades

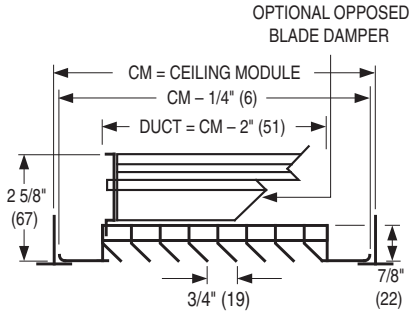


Model 61FV
Vertical Blades

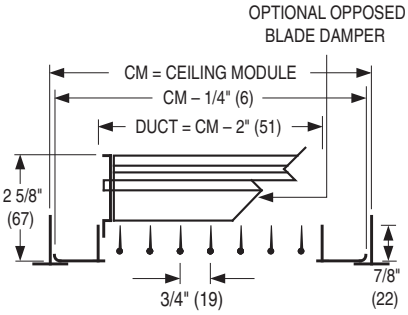
Frame/Border Type S – Surface Mount



Model 6145H

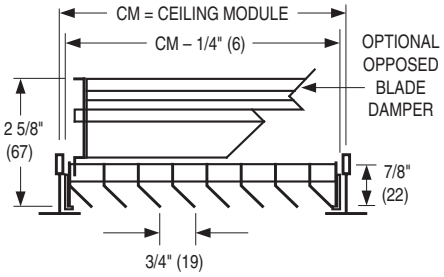


Model 6145H
Horizontal Blades



Model 61FH
Horizontal Blades

Frame/Border Type L – Lay-in T-Bar



Model 6145H
Horizontal Blades

Frame/Border Type A – Lay-in T-Bar, Concealed Angle Frame

STEEL RETURN GRILLES AND REGISTERS

- FIXED 45° BLADE DEFLECTION
- 3/4" (19) SPACING
- FINELINE®
- FULL FACE

Model:

6145F

- **Suffix '-O' adds a steel opposed blade damper**
- **Suffix '-OA' adds an aluminum opposed blade damper**

Model 6145F

Model 6145F Return Grilles and Registers have been specially designed for return air applications to integrate and complement "Fineline®" type suspended ceiling systems. It is suited for non-ducted plenum return air applications. The formed, corrosion-resistant steel frame with mitered corners includes a support rail on four sides, which allows for the full area of the ceiling module to be utilized. The grilles have fixed horizontal blades (parallel to width/first specified dim.) spaced on 3/4" (19) centers with 45° face deflection. Their appearance complements the supply grilles and registers in the 6100 series.

The streamlined blades and open spacing maintain an effective free area average capacity of over 50%, which minimizes outlet velocity, reduces pressure drop and assures quiet operation. The smooth blades do not accumulate lint and plug up. The design features a concealed rear reinforcing blade support mullion. The grille therefore has a continuous louvered blade appearance with no visible face mullions on all single section sizes, thereby offering superior architectural appearance.

STANDARD FEATURES:

- Available in ceiling module sizes 24" x 12" and 24" x 24" (610 x 305 and 610 x 610).
- Roll-formed blades on 3/4" (19) centers, fixed at 45° and reinforced with concealed mullions on 16" (406) maximum centers.
- Support rail on four sides, allowing full area of the ceiling module to be utilized.

CONSTRUCTION MATERIAL:

- Corrosion-resistant, formed steel frame with mitered corners construction.
- Optional roll-formed steel opposed blade damper has a screwdriver slot or lever operator accessible through the face of the register.

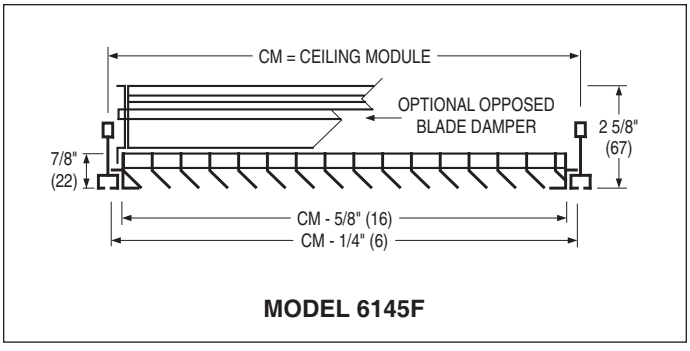
FINISH OPTIONS:

- AW Appliance White finish is standard. Other finishes are available.

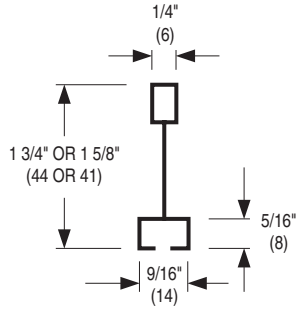
OPTIONS AND ACCESSORIES:

- IS Insect Screen
- EQT Earthquake Tabs

For additional options and accessories, see page F191.



MODEL 6145F



REGRESSED T-BAR DETAIL

Imperial Modules		Metric Modules
Imperial Units (in.)	Metric Units (mm)	S.I. Units (mm)
24 x 12	610 x 305	600 x 300
24 x 24	610 x 610	600 x 600

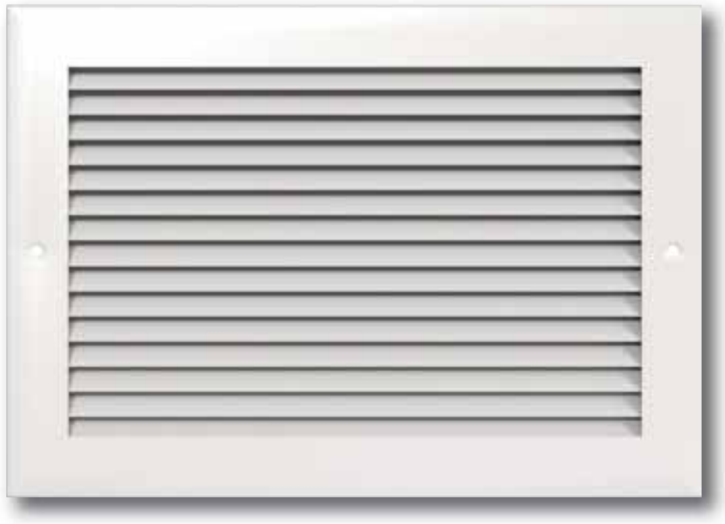
STEEL RETURN GRILLES AND REGISTERS

- LOUVERED FACE
- FIXED 45° BLADE DEFLECTION
- 1/2" (13) SPACING

Models:

6155H and 6155V

- **Suffix '-O' adds a steel opposed blade damper**



Model 6155H

Models 6155H and 6155V Return Grilles and Registers have fixed horizontal and vertical blades respectively, spaced on 1/2" (13) centers with a 45° fixed deflection.

The streamlined roll-formed blade design features a concealed rear reinforcing mullion for support. The grille therefore has a continuous louvered blade appearance with no visible face mullions on all single section sizes, thereby offering superior architectural appearance. The open design maintains a minimum effective free area of 40%.

The 1/2" (13) blade centers on these models provide a return grille for return air or exhaust applications which has a "no see-through" design, not only when the grille is viewed with the blade deflection facing away from the line of sight, but also when viewed from straight ahead.

Frame/Border Type S Surface Mount – This style has a flanged frame with an overall face dimension that is 1 3/4" (44) larger than the listed duct size. It is furnished as standard with countersunk screw holes and mounting screws.

Frame/Border Type L Lay-in T-Bar – This style is similar to above, but is sized on the overall face dimension to suit standard lay-in T-Bar ceiling modules and is supplied less screw holes. It is the model of choice for ducted return air applications. The nominal duct size is 2" (51) smaller than the ceiling module. When installed, the frame/border is partially visible within the perimeter of the ceiling opening and provides a visually appealing architectural finish.

Frame/Border Type A Lay-in T-Bar, Concealed Angle Frame – This style has a narrow corrosion-resistant steel frame that surrounds the core and is invisible when installed in standard lay-in T-Bar ceilings. It is suited for non-ducted plenum return air applications. This frame also permits the attachment of an optional opposed blade damper.

Frame/Border Type F Narrow Regressed T-Bar – This style has been specially designed for return air applications to integrate with and complement "Fineline®" type suspended ceiling systems. It is suited for non-ducted plenum return air applications. The corrosion-resistant steel frame includes a support rail on four sides, which allows for the full area of the ceiling module to be utilized.

Panel mounting is also available in an assortment of styles to suit most other ceiling types. Refer to page number F194 in the Options and Accessories section for further information.

STANDARD FEATURES:

- Frame/border Type S has 1 1/4" (32) wide face border with a 1" (25) overlap margin standard, furnished with countersunk screw holes and mounting screws.
- Rigid, roll-formed frames with reinforced mitered corners.
- Streamlined shaped roll-formed blades on 1/2" (13) centers. Blades positively hold deflection setting under all conditions of velocity and pressure.
- Available in sizes from 4" x 4" to 48" x 36" (102 x 102 to 1219 x 914) in single section construction. Multiple section assemblies are available.

CONSTRUCTION MATERIAL:

- Cost effective, corrosion-resistant, steel construction.
- Integral dampers - roll-formed steel blades. Opposed blade design with screwdriver slot operator.

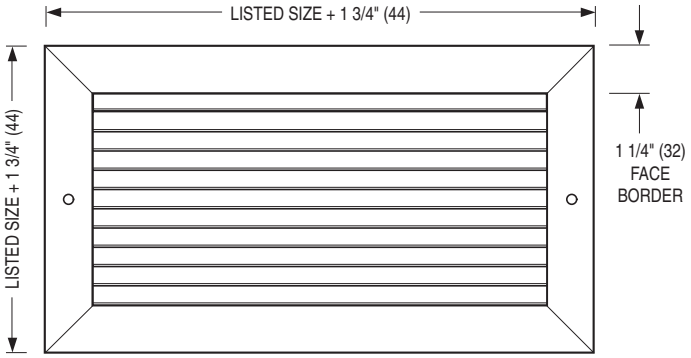
OPTIONS AND ACCESSORIES:

- IS Insect Screen
- PF Plaster Frame
- GK Foam Gasket
- EQT Earthquake Tabs

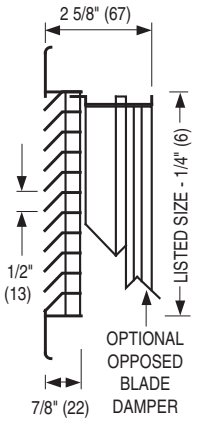
FINISH OPTIONS:

- AW Appliance White finish is standard. Other finishes are available.

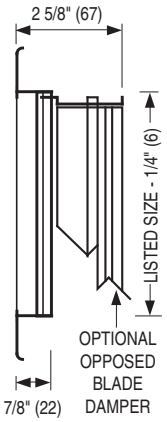
DIMENSIONAL DATA:
6100 SERIES RETURN 1/2" (13) BLADE SPACING



Model 6155H

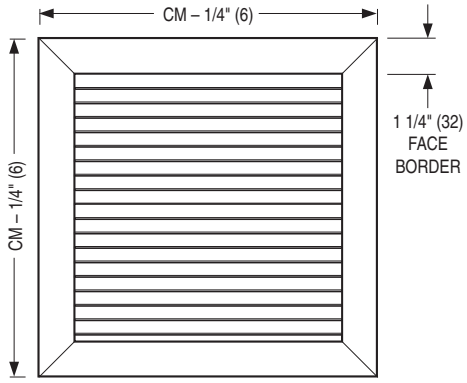


Model 6155H
Horizontal Blades

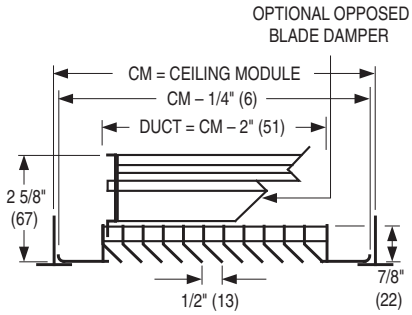


Model 6155V
Vertical Blades

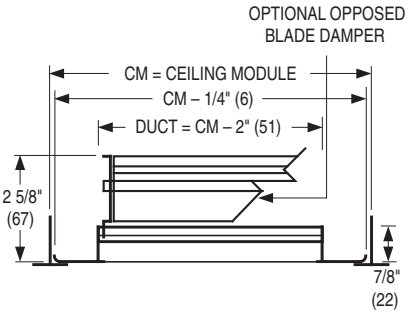
Frame/Border Type S – Surface Mount



Model 6155H

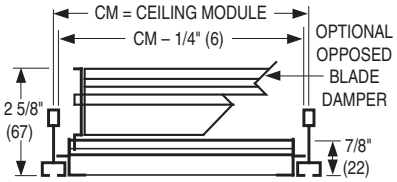


Model 6155H
Horizontal Blades

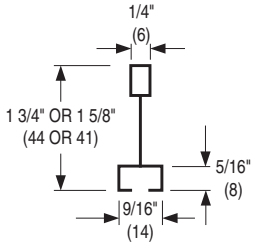


Model 6155V
Vertical Blades

Frame/Border Type L – Lay-in T-Bar

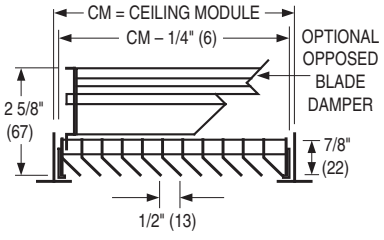


Model 6155V
Vertical Blades



Narrow Regressed T-Bar Detail

Frame/Border Type F – Narrow Regressed T-Bar



Model 6155H
Horizontal Blades

Frame/Border Type A – Lay-in T-Bar, Concealed Angle Frame

STAINLESS STEEL RETURN GRILLES AND REGISTERS

- FIXED 45° OR 0° BLADE DEFLECTION
- 3/4" (19) SPACING

Models:

6745H, 6745V, 67FH and 67FV

- **Suffix '-O' adds a stainless steel opposed blade damper**

Model 6745H

Models 6745H and 67FH Return Grilles and Registers have fixed horizontal blades (parallel to width/first specified dim.) spaced on 3/4" (19) centers with 45° or 0° straight face deflection.

Models 6745V and 67FV Return Grilles and Registers have fixed vertical blades (parallel to height/second specified dim.) spaced on 3/4" (19) centers with 45° or 0° straight face deflection. Their appearance complements the supply grilles and registers in the 6700 Series.

The streamlined blades and open spacing maintain a minimum effective free area of 50% for 45° and 70% for 0°, which minimizes intake velocity, reduces inlet pressure and provides quiet operation. The smooth blade shapes do not accumulate lint and plug up. Deflected bar grilles installed in a low or high side wall location are vision-proof with the grille blade deflection facing away from the line of sight.

Stainless steel grilles and registers are well suited for applications involving corrosive environments, high humidity or frequent cleaning with strong chemicals. Typical projects include hospitals, clean rooms, laboratories, industrial and manufacturing facilities.

STANDARD FEATURES:

- 1 3/8" (35) wide face border with a 1" (25) overlap margin standard, furnished with Type A countersunk screw holes and stainless steel mounting screws.
- Rigid, roll-formed frames with reinforced mitered corners.
- Streamlined shaped roll-formed blades on 3/4" (19) centers. Blades positively hold deflection setting under all conditions of velocity and pressure.
- Available in sizes from 4" x 4" to 60" x 48" (102 x 102 to 1524 x 1219).

CONSTRUCTION MATERIAL:

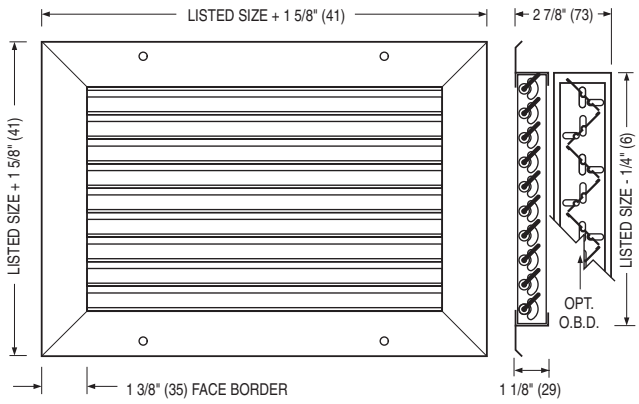
- Type 304 stainless steel construction.
- Integral dampers - roll-formed stainless steel blades. Opposed blade design with screwdriver operator.

FINISH OPTIONS:

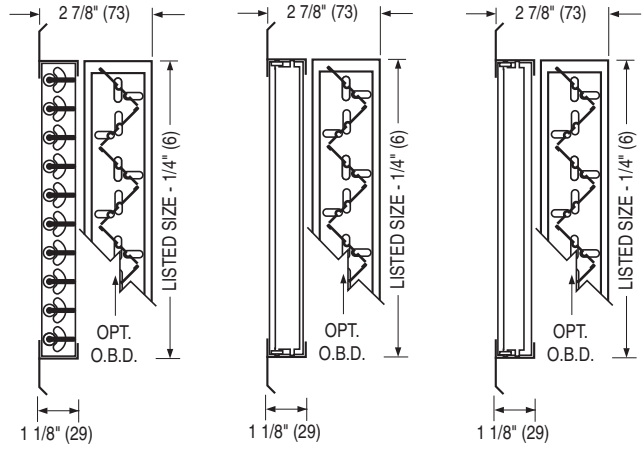
- #4 Brushed Satin Polished finish is standard. Other finishes are available.

OPTIONS AND ACCESSORIES:

- 316 Type 316 Stainless Steel construction is optional.
- PFS Stainless Steel Plaster Frame



MODEL 6745H Horizontal Blades



MODEL 67FH **MODEL 67FV** **MODEL 6745V**

STAINLESS STEEL RETURN GRILLES AND REGISTERS

- LOUVERED FACE
- FIXED 45° BLADE DEFLECTION
- 1/2" (13) SPACING

Models:

6755H and 6755V

- **Suffix '-O' adds a stainless steel opposed blade damper**

Model 6755H

Models 6755H and 6755V Return Grilles and Registers have fixed horizontal and vertical blades respectively, spaced on 1/2" (13) centers with a 45° fixed deflection.

The streamlined blades and open spacing maintain a minimum effective free area of 40%, which minimizes intake velocity, reduces inlet pressure and provides quiet operation. The smooth blade shapes do not accumulate lint and plug up.

The 1/2" (13) blade centers on these models provide a return grille for return air or exhaust applications which has a 'no see-through' design, not only when the grille is viewed with the blade deflection facing away from the line of sight, but also when viewed from straight ahead.

Stainless steel grilles and registers are well suited for applications involving corrosive environments, high humidity or frequent cleaning with strong chemicals. Typical projects include hospitals, clean rooms, laboratories, industrial and manufacturing facilities.

STANDARD FEATURES:

- 1 3/8" (35) wide face border with a 1" (25) overlap margin standard, furnished with Type A countersunk screw holes and stainless steel mounting screws.
- Rigid, welded and reinforced frames with hairline mitered corners.
- Streamlined shaped roll-formed blades on 1/2" (13) centers. Blades positively hold deflection setting under all conditions of velocity and pressure.
- Available in sizes from 4" x 4" to 60" x 48" (102 x 102 to 1524 x 1219).
- #4 Brushed Satin Polished finish is standard. AW Appliance White finish is optional. Other finishes are available.

CONSTRUCTION MATERIAL:

- Type 304 stainless steel construction.
- Integral dampers - roll-formed stainless steel blades. Opposed blade design with screwdriver operator.

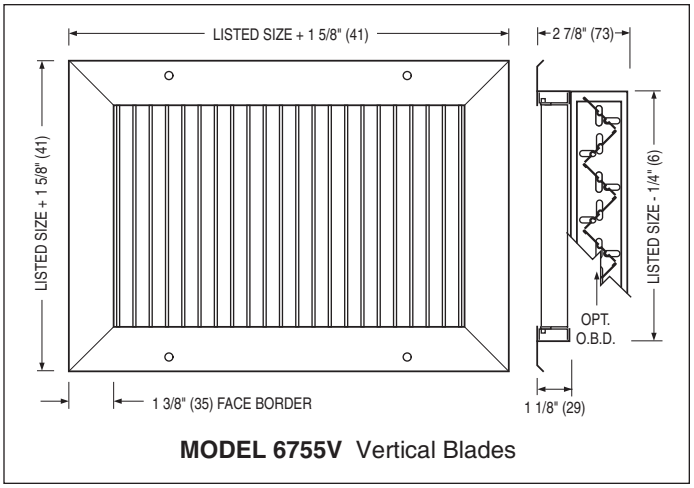
FINISH OPTIONS:

- #4 Brushed Satin Polished finish is standard. Other finishes are available.

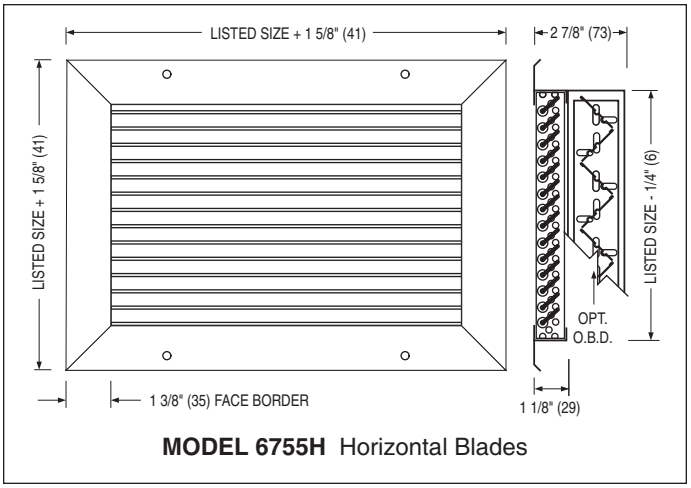
OPTIONS AND ACCESSORIES:

- 316 Type 316 Stainless Steel construction is optional.
- PFS Stainless Steel Plaster Frame

For additional options and accessories, see page F191.



MODEL 6755V Vertical Blades



MODEL 6755H Horizontal Blades

PERFORMANCE DATA:

FIXED BLADE RETURN GRILLES AND REGISTERS • 5100, 6100 AND 6700 SERIES

MODELS: 5145H, 6145H, 6745H, 5145V, 6145V, 6745V, 51FB45, 61FB45, 67FB45

Listed Duct Size (inches)	Alternate Sizes (inches)	Core Area (sq. ft.)	Ak Factor	Core Velocity Velocity Pressure Neg. Static Pressure	100 .001 .003	200 .002 .014	300 .006 .031	400 .010 .055	500 .016 .086	600 .022 .124	700 .031 .168	800 .040 .220	900 .050 .278	1000 .062 .344
6 x 6	8 x 4 10 x 4	0.20	0.23	**CFM** Noise Criteria	**20** –	**40** –	**60** –	**80** –	**100** –	**120** 19	**140** 24	**160** 28	**180** 32	**200** 36
8 x 6	10 x 5 12 x 4	0.28	0.30	**CFM** Noise Criteria	**28** –	**56** –	**84** –	**112** –	**140** 15	**168** 20	**196** 25	**224** 29	**252** 33	**280** 37
10 x 6	12 x 5 16 x 4	0.35	0.37	**CFM** Noise Criteria	**35** –	**70** –	**105** –	**140** –	**175** 16	**210** 21	**245** 26	**280** 30	**315** 34	**350** 38
8 x 8	14 x 5	0.38	0.40	**CFM** Noise Criteria	**38** –	**76** –	**114** –	**152** –	**190** 17	**228** 22	**266** 27	**304** 31	**342** 35	**380** 39
12 x 6	18 x 4	0.42	0.45	**CFM** Noise Criteria	**42** –	**84** –	**126** –	**168** –	**210** 18	**252** 23	**294** 27	**336** 32	**378** 36	**420** 40
12 x 8	16 x 6 24 x 4	0.58	0.59	**CFM** Noise Criteria	**58** –	**116** –	**174** –	**232** –	**290** 19	**348** 24	**406** 28	**464** 33	**522** 37	**580** 41
10 x 10	14 x 7 26 x 4	0.61	0.62	**CFM** Noise Criteria	**61** –	**122** –	**183** –	**244** –	**305** 19	**366** 24	**427** 29	**488** 34	**549** 37	**610** 41
18 x 6	14 x 8 28 x 4	30 x 4	0.65	0.67	**CFM** Noise Criteria	**65** –	**130** –	**195** –	**260** 15	**325** 20	**390** 25	**455** 30	**520** 34	**585** 38	**650** 41
12 x 10	16 x 8 24 x 5	20 x 6	0.74	0.74	**CFM** Noise Criteria	**74** –	**148** –	**222** –	**296** 15	**370** 20	**444** 25	**518** 30	**592** 35	**666** 39	**740** 42
12 x 12	14 x 10 18 x 8	24 x 6 38 x 4	0.90	0.89	**CFM** Noise Criteria	**90** –	**180** –	**270** –	**360** 16	**450** 21	**540** 26	**630** 31	**720** 36	**810** 39	**900** 42
14 x 14	16 x 12 20 x 10	24 x 8 34 x 6	1.24	1.22	**CFM** Noise Criteria	**124** –	**248** –	**372** –	**496** 16	**620** 21	**744** 26	**868** 31	**992** 36	**1116** 40	**1240** 43
18 x 12	16 x 14 22 x 10	28 x 8 38 x 6	1.37	1.34	**CFM** Noise Criteria	**137** –	**274** –	**411** –	**548** 17	**685** 22	**822** 27	**959** 32	**1096** 37	**1233** 40	**1370** 43
24 x 10	20 x 12 30 x 8	1.52	1.49	**CFM** Noise Criteria	**152** –	**304** –	**456** –	**608** 17	**760** 22	**912** 27	**1064** 32	**1216** 38	**1368** 41	**1520** 44
16 x 16	18 x 14 22 x 12	30 x 8	1.64	1.58	**CFM** Noise Criteria	**164** –	**328** –	**492** –	**656** 18	**820** 23	**984** 28	**1148** 33	**1312** 38	**1476** 41	**1640** 44
24 x 12	18 x 16 20 x 14	30 x 10 36 x 8	1.85	1.78	**CFM** Noise Criteria	**185** –	**370** –	**555** –	**740** 18	**925** 23	**1110** 28	**1295** 33	**1480** 38	**1665** 41	**1850** 45
18 x 18	20 x 16 24 x 14	28 x 12 32 x 10	2.10	2.01	**CFM** Noise Criteria	**210** –	**420** –	**630** –	**840** 18	**1050** 23	**1260** 29	**1470** 34	**1680** 39	**1890** 42	**2100** 45
30 x 12	20 x 18 22 x 16	26 x 14 36 x 10	2.32	2.23	**CFM** Noise Criteria	**232** –	**464** –	**696** –	**928** 19	**1160** 24	**1392** 29	**1624** 34	**1856** 39	**2088** 42	**2320** 46
20 x 20	24 x 18 26 x 16	30 x 14 36 x 12	2.61	2.48	**CFM** Noise Criteria	**261** –	**522** –	**783** –	**1044** 19	**1305** 24	**1566** 30	**1827** 35	**2088** 40	**2349** 43	**2610** 46
22 x 22	24 x 20 26 x 18	30 x 16 36 x 14	3.17	3.00	**CFM** Noise Criteria	**317** –	**634** –	**951** –	**1268** 20	**1585** 25	**1902** 31	**2219** 35	**2536** 40	**2853** 43	**3170** 47
30 x 18	24 x 22 34 x 16	40 x 14	3.54	3.34	**CFM** Noise Criteria	**354** –	**708** –	**1062** –	**1416** 20	**1770** 25	**2124** 31	**2478** 36	**2832** 41	**3186** 44	**3540** 48
24 x 24	26 x 22 28 x 20	32 x 18 36 x 16	3.79	3.56	**CFM** Noise Criteria	**379** –	**758** –	**1137** –	**1516** 20	**1895** 25	**2274** 31	**2653** 36	**3032** 41	**3411** 44	**3790** 48
36 x 18	32 x 20 40 x 16	46 x 14	4.27	4.01	**CFM** Noise Criteria	**427** –	**854** –	**1281** –	**1708** 21	**2135** 26	**2562** 32	**2989** 37	**3416** 42	**3843** 45	**4270** 49
26 x 26	28 x 24 48 x 14	4.47	4.19	**CFM** Noise Criteria	**447** –	**894** –	**1341** –	**1788** 21	**2235** 26	**2682** 32	**3129** 37	**3576** 42	**4023** 45	**4470** 49
30 x 24	28 x 26 32 x 22	36 x 20 40 x 18	4.77	4.46	**CFM** Noise Criteria	**477** –	**954** –	**1431** 15	**1908** 22	**2385** 27	**2862** 33	**3339** 38	**3816** 42	**4293** 46	**4770** 50
28 x 28	30 x 26 36 x 22	40 x 20	5.20	4.85	**CFM** Noise Criteria	**520** –	**1040** –	**1560** 15	**2080** 22	**2600** 27	**3120** 33	**3640** 38	**4160** 43	**4680** 46	**5200** 50
36 x 24	30 x 28 40 x 22	44 x 20	5.74	5.35	**CFM** Noise Criteria	**574** –	**1148** –	**1722** 15	**2296** 22	**2870** 28	**3444** 34	**4018** 38	**4592** 43	**5166** 47	**5740** 51
30 x 30	34 x 26 38 x 24	48 x 20	5.99	5.57	**CFM** Noise Criteria	**599** –	**1198** –	**1797** 15	**2396** 22	**2995** 28	**3594** 34	**4193** 39	**4792** 43	**5391** 47	**5990** 51

For performance data notes, see F42.

PERFORMANCE DATA:

FIXED BLADE RETURN GRILLES AND REGISTERS • 5100, 6100 AND 6700 SERIES

MODELS: 5145H, 6145H, 6745H, 5145V, 6145V, 6745V, 51FB45, 61FB45, 67FB45

Listed Duct Size (inches)	Alternate Sizes (inches)	Core Area (sq. ft.)	Ak Factor	Core Velocity Velocity Pressure Neg. Static Pressure	100 .001 .003	200 .002 .014	300 .006 .031	400 .010 .055	500 .016 .086	600 .022 .124	700 .031 .168	800 .040 .220	900 .050 .278	1000 .062 .344
32 x 32	36 x 30 46 x 22 38 x 28	6.84	6.34	**CFM** Noise Criteria	**684** –	**1368** –	**2052** 16	**2736** 23	**3420** 29	**4104** 35	**4788** 39	**5472** 44	**6156** 48	**6840** 52
48 x 24	34 x 34 38 x 30 36 x 32 48 x 28	7.69	7.13	**CFM** Noise Criteria	**769** –	**1538** –	**2307** 17	**3076** 23	**3845** 29	**4614** 35	**5383** 40	**6152** 44	**6921** 48	**7690** 52
36 x 36	38 x 34 46 x 28 42 x 30 48 x 26	8.69	8.02	**CFM** Noise Criteria	**869** –	**1738** –	**2607** 17	**3476** 24	**4345** 29	**5214** 36	**6083** 41	**6952** 45	**7821** 49	**8690** 53
38 x 38	42 x 34 48 x 30 44 x 34	9.70	8.94	**CFM** Noise Criteria	**970** –	**1940** –	**2910** 18	**3880** 24	**4850** 30	**5820** 36	**6790** 41	**7760** 45	**8730** 49	**9700** 53
40 x 40	42 x 36 48 x 32 46 x 34	10.77	9.90	**CFM** Noise Criteria	**1077** –	**2154** –	**3231** 18	**4308** 24	**5385** 30	**6462** 36	**7539** 42	**8616** 45	**9693** 50	**10770** 54
42 x 42	46 x 42	11.89	10.92	**CFM** Noise Criteria	**1189** –	**2378** –	**3567** 19	**4756** 25	**5945** 31	**7134** 37	**8323** 42	**9512** 46	**10701** 50	**11890** 54
44 x 44		13.07	11.98	**CFM** Noise Criteria	**1307** –	**2614** –	**3921** 19	**5228** 25	**6535** 31	**7842** 37	**9149** 42	**10456** 46	**11763** 50	**13070** 54
46 x 46		14.30	13.10	**CFM** Noise Criteria	**1430** –	**2860** –	**4290** 20	**5720** 26	**7150** 32	**8580** 38	**10010** 43	**11440** 47	**12870** 51	**14300** 55
48 x 48		15.59	14.26	**CFM** Noise Criteria	**1559** –	**3118** –	**4677** 20	**6236** 26	**7795** 32	**9354** 38	**10913** 43	**12472** 47	**14031** 51	**15590** 55

Performance Notes:

1. All pressures are in inches w.g..

2. Core Velocity is in feet per minute.

3. Performance data is for grille with opposed blade damper. Apply the following correction factors for grille without damper.

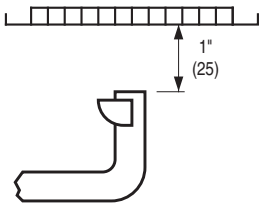
Negative Static Pressure Listed Value x 0.91.

Noise Criteria Listed value – 4.

4. Noise Criteria (NC) values are based upon 10dB room absorption, re 10^{-12} watts. Dash (–) in space indicates an Noise Criteria of less than 15.

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

Air Measurement



Alnor Velometer with 2220A or 6070P Jet Probe

Airflow Measurements:

1. Balancing factors are applicable with or without dampers, providing uniform airflow exists into grille or register.

2. Take velocity readings at a number of locations on the inlet face (a minimum of 4), while positioning probe as shown above, one inch out from the face.

3. Total the various velocity readings and divide by the number of readings taken to arrive at an average inlet velocity (Vk in FPM).

4. Calculate the airflow (CFM) by multiplying the average velocity by the appropriate Ak factor.
Airflow (CFM) = Average velocity (Vk) x Ak.

PERFORMANCE DATA:

FIXED BLADE RETURN GRILLES AND REGISTERS • 5100, 6100 AND 6700 SERIES

MODELS: 51FH, 61FH, 67FH, 51FV, 61FV, 67FV, 51FBS, 61FBS

Listed Duct Size (inches)	Alternate Sizes (inches)	Core Area (sq. ft.)	Ak Factor	Core Velocity Velocity Pressure Neg. Static Pressure	100 .001 .002	200 .002 .009	300 .006 .020	400 .010 .035	500 .016 .055	600 .022 079	700 .031 .107	800 .040 .140	900 .050 .177	1000 .062 .219
6 x 6	8 x 4 10 x 4	0.20	0.23	**CFM** Noise Criteria	**20** –	**40** –	**60** –	**80** –	**100** –	**120** 16	**140** 18	**160** 21	**180** 25	**200** 30
8 x 6	10 x 5 12 x 4	0.28	0.30	**CFM** Noise Criteria	**28** –	**56** –	**84** –	**112** –	**140** –	**168** 17	**196** 19	**224** 22	**252** 26	**280** 31
10 x 6	12 x 5 16 x 4	0.35	0.37	**CFM** Noise Criteria	**35** –	**70** –	**105** –	**140** –	**175** –	**210** 18	**245** 20	**280** 23	**315** 27	**350** 32
8 x 8	14 x 5	0.38	0.40	**CFM** Noise Criteria	**38** –	**76** –	**114** –	**152** –	**190** –	**228** 19	**266** 21	**304** 24	**342** 28	**380** 32
12 x 6	18 x 4	0.42	0.45	**CFM** Noise Criteria	**42** –	**84** –	**126** –	**168** –	**210** 15	**252** 19	**294** 22	**336** 25	**378** 29	**420** 33
12 x 8	16 x 6 24 x 4	0.58	0.59	**CFM** Noise Criteria	**58** –	**116** –	**174** –	**232** –	**290** 15	**348** 19	**406** 22	**464** 26	**522** 30	**580** 34
10 x 10	14 x 7 26 x 4	0.61	0.62	**CFM** Noise Criteria	**61** –	**122** –	**183** –	**244** –	**305** 15	**366** 19	**427** 22	**488** 27	**549** 30	**610** 35
18 x 6	14 x 8 30 x 4 28 x 4	0.65	0.67	**CFM** Noise Criteria	**65** –	**130** –	**195** –	**260** –	**325** 16	**390** 20	**455** 23	**520** 27	**585** 31	**650** 35
12 x 10	16 x 8 20 x 6 24 x 5	0.74	0.74	**CFM** Noise Criteria	**74** –	**148** –	**222** –	**296** –	**370** 16	**444** 21	**518** 24	**592** 28	**666** 32	**740** 35
12 x 12	14 x 10 24 x 6 18 x 8 38 x 4	0.90	0.89	**CFM** Noise Criteria	**90** –	**180** –	**270** –	**360** –	**450** 17	**540** 21	**630** 24	**720** 29	**810** 32	**900** 35
14 x 14	16 x 12 24 x 8 20 x 10 34 x 6	1.24	1.22	**CFM** Noise Criteria	**124** –	**248** –	**372** –	**496** –	**620** 17	**744** 22	**868** 25	**992** 29	**1116** 33	**1240** 36
18 x 12	16 x 14 28 x 8 22 x 10 38 x 6	1.37	1.34	**CFM** Noise Criteria	**137** –	**274** –	**411** –	**548** –	**685** 18	**822** 23	**959** 26	**1096** 31	**1233** 34	**1370** 37
24 x 10	20 x 12 30 x 8	1.52	1.49	**CFM** Noise Criteria	**152** –	**304** –	**456** –	**608** –	**760** 18	**912** 23	**1064** 27	**1216** 32	**1368** 35	**1520** 38
16 x 16	18 x 14 30 x 8 22 x 12	1.64	1.58	**CFM** Noise Criteria	**164** –	**328** –	**492** –	**656** –	**820** 19	**984** 23	**1148** 27	**1312** 32	**1476** 35	**1640** 38
24 x 12	18 x 16 30 x 10 20 x 14 36 x 8	1.85	1.78	**CFM** Noise Criteria	**185** –	**370** –	**555** –	**740** –	**925** 19	**1110** 24	**1295** 27	**1480** 32	**1665** 35	**1850** 39
18 x 18	20 x 16 28 x 12 24 x 14 32 x 10	2.10	2.01	**CFM** Noise Criteria	**210** –	**420** –	**630** –	**840** –	**1050** 19	**1260** 24	**1470** 28	**1680** 33	**1890** 36	**2100** 39
30 x 12	20 x 18 26 x 14 22 x 16 36 x 10	2.32	2.23	**CFM** Noise Criteria	**232** –	**464** –	**696** –	**928** –	**1160** 19	**1392** 24	**1624** 28	**1856** 33	**2088** 36	**2320** 40
20 x 20	24 x 18 30 x 14 26 x 16 36 x 12	2.61	2.48	**CFM** Noise Criteria	**261** –	**522** –	**783** –	**1044** –	**1305** 19	**1566** 24	**1827** 28	**2088** 33	**2349** 36	**2610** 40
22 x 22	24 x 20 30 x 16 26 x 18 36 x 14	3.17	3.00	**CFM** Noise Criteria	**317** –	**634** –	**951** –	**1268** 15	**1585** 20	**1902** 25	**2219** 29	**2536** 33	**2853** 36	**3170** 40
30 x 18	24 x 22 40 x 14 34 x 16	3.54	3.34	**CFM** Noise Criteria	**354** –	**708** –	**1062** –	**1416** 15	**1770** 20	**2124** 25	**2478** 29	**2832** 34	**3186** 37	**3540** 41
24 x 24	26 x 22 32 x 18 28 x 20 36 x 16	3.79	3.56	**CFM** Noise Criteria	**379** –	**758** –	**1137** –	**1516** 15	**1895** 20	**2274** 25	**2653** 30	**3032** 34	**3411** 37	**3790** 41
36 x 18	32 x 20 46 x 14 40 x 16	4.27	4.01	**CFM** Noise Criteria	**427** –	**854** –	**1281** –	**1708** 17	**2135** 22	**2562** 26	**2989** 30	**3416** 35	**3843** 38	**4270** 42
26 x 26	28 x 24 48 x 14	4.47	4.19	**CFM** Noise Criteria	**447** –	**894** –	**1341** –	**1788** 17	**2235** 22	**2682** 26	**3129** 30	**3576** 35	**4023** 38	**4470** 42
30 x 24	28 x 26 36 x 20 32 x 22 40 x 18	4.77	4.46	**CFM** Noise Criteria	**477** –	**954** –	**1431** –	**1908** 18	**2385** 23	**2862** 27	**3339** 31	**3816** 35	**4293** 39	**4770** 43
28 x 28	30 x 26 40 x 20 36 x 22	5.20	4.85	**CFM** Noise Criteria	**520** –	**1040** –	**1560** –	**2080** 18	**2600** 23	**3120** 27	**3640** 31	**4160** 36	**4680** 39	**5200** 43
36 x 24	30 x 28 44 x 20 40 x 22	5.74	5.35	**CFM** Noise Criteria	**574** –	**1148** –	**1722** –	**2296** 18	**2870** 23	**3444** 27	**4018** 31	**4592** 36	**5166** 40	**5740** 44
30 x 30	34 x 26 48 x 20 38 x 24	5.99	5.57	**CFM** Noise Criteria	**599** –	**1198** –	**1797** –	**2396** 18	**2995** 23	**3594** 28	**4193** 32	**4792** 36	**5391** 40	**5990** 44

For performance data notes, see F44.

PERFORMANCE DATA:

FIXED BLADE RETURN GRILLES AND REGISTERS • 5100, 6100 AND 6700 SERIES

MODELS: 51FH, 61FH, 67FH, 51FV, 61FV, 67FV, 51FBS, 61FBS

Listed Duct Size (inches)	Alternate Sizes (inches)	Core Area (sq. ft.)	Ak Factor	Core Velocity Velocity Pressure Neg. Static Pressure	100 .001 .003	200 .002 .014	300 .006 .031	400 .010 .055	500 .016 .086	600 .022 .124	700 .031 .168	800 .040 .220	900 .050 .278	1000 .062 .344
32 x 32	36 x 30 46 x 22 38 x 28	6.84	6.34	**CFM** Noise Criteria	**684** –	**1368** –	**2052** –	**2736** 18	**3420** 24	**4104** 28	**4788** 32	**5472** 37	**6156** 41	**6840** 45
48 x 24	34 x 34 38 x 30 36 x 32 48 x 28	7.69	7.13	**CFM** Noise Criteria	**769** –	**1538** –	**2307** –	**3076** 18	**3845** 24	**4614** 29	**5383** 33	**6152** 37	**6921** 41	**7690** 45
36 x 36	38 x 34 46 x 28 42 x 30 48 x 26	8.69	8.02	**CFM** Noise Criteria	**869** –	**1738** –	**2607** –	**3476** 19	**4345** 24	**5214** 29	**6083** 34	**6952** 38	**7821** 42	**8690** 46
38 x 38	42 x 34 48 x 30 44 x 34	9.70	8.94	**CFM** Noise Criteria	**970** –	**1940** –	**2910** –	**3880** 19	**4850** 25	**5820** 30	**6790** 34	**7760** 38	**8730** 42	**9700** 46
40 x 40	42 x 36 48 x 32 46 x 34	10.77	9.90	**CFM** Noise Criteria	**1077** –	**2154** –	**3231** –	**4308** 20	**5385** 26	**6462** 30	**7539** 35	**8616** 38	**9693** 43	**10770** 47
42 x 42	46 x 42	11.89	10.92	**CFM** Noise Criteria	**1189** –	**2378** –	**3567** –	**4756** 20	**5945** 26	**7134** 31	**8323** 35	**9512** 39	**10701** 43	**11890** 47
44 x 44		13.07	11.98	**CFM** Noise Criteria	**1307** –	**2614** –	**3921** 15	**5228** 20	**6535** 26	**7842** 31	**9149** 35	**10456** 39	**11763** 43	**13070** 47
46 x 46		14.30	13.10	**CFM** Noise Criteria	**1430** –	**2860** –	**4290** 15	**5720** 21	**7150** 27	**8580** 32	**10010** 36	**11440** 40	**12870** 44	**14300** 48
48 x 48		15.59	14.26	**CFM** Noise Criteria	**1559** –	**3118** –	**4677** 16	**6236** 21	**7795** 27	**9354** 32	**10913** 36	**12472** 40	**14031** 44	**15590** 48

Performance Notes:

1. All pressures are in inches w.g..

2. Core Velocity is in feet per minute.

3. Performance data is for grille with opposed blade damper. Apply the following correction factors for grille without damper.

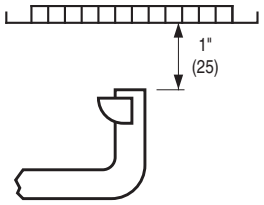
Negative Static Pressure Listed Value x 0.91.

Noise Criteria Listed value – 4.

4. Noise Criteria (NC) values are based upon 10dB room absorption, re 10^{-12} watts. Dash (-) in space indicates an Noise Criteria of less than 15.

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

Air Measurement



Alnor Velometer with 2220A or 6070P Jet Probe

Airflow Measurements:

1. Balancing factors are applicable with or without dampers, providing uniform airflow exists into grille or register.

2. Take velocity readings at a number of locations on the inlet face (a minimum of 4), while positioning probe as shown above, one inch out from the face.

3. Total the various velocity readings and divide by the number of readings taken to arrive at an average inlet velocity (Vk in FPM).

4. Calculate the airflow (CFM) by multiplying the average velocity by the appropriate Ak factor.
Airflow (CFM) = Average velocity (Vk) x Ak.

PERFORMANCE DATA:

FIXED BLADE RETURN GRILLES AND REGISTERS • 5100, 6100 AND 6700 SERIES

MODELS: 5155H, 6155H, 6755H, 5155V, 6155V, 6755V, 51FB55, 61FB55, 67FB55

Listed Duct Size (inches)	Alternate Sizes (inches)	Core Area (sq. ft.)	Ak Factor	Core Velocity Velocity Pressure Neg. Static Pressure	100 .001 .005	200 .002 .018	300 .006 .041	400 .010 .073	500 .016 .114	600 .022 .164	700 .031 .223	800 .040 .292	900 .050 .369	1000 .062 .456
6 x 6	8 x 4 10 x 4	0.20	0.23	**CFM** Noise Criteria	**20** –	**40** –	**60** –	**80** –	**100** 16	**120** 21	**140** 26	**160** 30	**180** 34	**200** 38
8 x 6	10 x 5 12 x 4	0.28	0.30	**CFM** Noise Criteria	**28** –	**56** –	**84** –	**112** –	**140** 17	**168** 22	**196** 27	**224** 31	**252** 35	**280** 39
10 x 6	12 x 5 16 x 4	0.35	0.37	**CFM** Noise Criteria	**35** –	**70** –	**105** –	**140** –	**175** 18	**210** 23	**245** 28	**280** 32	**315** 36	**350** 40
8 x 8	14 x 5	0.38	0.40	**CFM** Noise Criteria	**38** –	**76** –	**114** –	**152** –	**190** 19	**228** 24	**266** 29	**304** 33	**342** 37	**380** 41
12 x 6	18 x 4	0.42	0.45	**CFM** Noise Criteria	**42** –	**84** –	**126** –	**168** 15	**210** 20	**252** 25	**294** 29	**336** 34	**378** 38	**420** 42
12 x 8	16 x 6 24 x 4	0.58	0.59	**CFM** Noise Criteria	**58** –	**116** –	**174** –	**232** 16	**290** 21	**348** 26	**406** 30	**464** 35	**522** 39	**580** 43
10 x 10	14 x 7 26 x 4	0.61	0.62	**CFM** Noise Criteria	**61** –	**122** –	**183** –	**244** 16	**305** 21	**366** 26	**427** 31	**488** 36	**549** 39	**610** 43
18 x 6	14 x 8 30 x 4 28 x 4	0.65	0.67	**CFM** Noise Criteria	**65** –	**130** –	**195** –	**260** 17	**325** 22	**390** 27	**455** 32	**520** 36	**585** 40	**650** 43
12 x 10	16 x 8 20 x 6 24 x 5	0.74	0.74	**CFM** Noise Criteria	**74** –	**148** –	**222** –	**296** 17	**370** 22	**444** 27	**518** 32	**592** 37	**666** 41	**740** 44
12 x 12	14 x 10 24 x 6 18 x 8 38 x 4	0.90	0.89	**CFM** Noise Criteria	**90** –	**180** –	**270** –	**360** 18	**450** 23	**540** 28	**630** 33	**720** 38	**810** 41	**900** 44
14 x 14	16 x 12 24 x 8 20 x 10 34 x 6	1.24	1.22	**CFM** Noise Criteria	**124** –	**248** –	**372** –	**496** 18	**620** 23	**744** 28	**868** 33	**992** 38	**1116** 42	**1240** 45
18 x 12	16 x 14 28 x 8 22 x 10 38 x 6	1.37	1.34	**CFM** Noise Criteria	**137** –	**274** –	**411** 15	**548** 20	**685** 25	**822** 30	**959** 35	**1096** 40	**1233** 43	**1370** 46
24 x 10	20 x 12 30 x 8	1.52	1.49	**CFM** Noise Criteria	**152** –	**304** –	**456** 15	**608** 20	**760** 25	**912** 30	**1064** 35	**1216** 41	**1368** 44	**1520** 47
16 x 16	18 x 14 30 x 8 22 x 12	1.64	1.58	**CFM** Noise Criteria	**164** –	**328** –	**492** 16	**656** 21	**820** 26	**984** 31	**1148** 36	**1312** 41	**1476** 44	**1640** 47
24 x 12	18 x 16 30 x 10 20 x 14 36 x 8	1.85	1.78	**CFM** Noise Criteria	**185** –	**370** –	**555** 16	**740** 21	**925** 26	**1110** 31	**1295** 36	**1480** 41	**1665** 44	**1850** 48
18 x 18	20 x 16 28 x 12 24 x 14 32 x 10	2.10	2.01	**CFM** Noise Criteria	**210** –	**420** –	**630** 16	**840** 21	**1050** 26	**1260** 32	**1470** 37	**1680** 42	**1890** 45	**2100** 48
30 x 12	20 x 18 26 x 14 22 x 16 36 x 10	2.32	2.23	**CFM** Noise Criteria	**232** –	**464** –	**696** 16	**928** 22	**1160** 27	**1392** 32	**1624** 37	**1856** 42	**2088** 45	**2320** 49
20 x 20	24 x 18 30 x 14 26 x 16 36 x 12	2.61	2.48	**CFM** Noise Criteria	**261** –	**522** –	**783** 16	**1044** 22	**1305** 27	**1566** 33	**1827** 38	**2088** 43	**2349** 46	**2610** 49
22 x 22	24 x 20 30 x 16 26 x 18 36 x 14	3.17	3.00	**CFM** Noise Criteria	**317** –	**634** –	**951** 17	**1268** 23	**1585** 28	**1902** 34	**2219** 38	**2536** 43	**2853** 46	**3170** 50
30 x 18	24 x 22 40 x 14 34 x 16	3.54	3.34	**CFM** Noise Criteria	**354** –	**708** –	**1062** 17	**1416** 23	**1770** 28	**2124** 34	**2478** 39	**2832** 44	**3186** 47	**3540** 51
24 x 24	26 x 22 32 x 18 28 x 20 36 x 16	3.79	3.56	**CFM** Noise Criteria	**379** –	**758** –	**1137** 17	**1516** 23	**1895** 28	**2274** 34	**2653** 39	**3032** 44	**3411** 47	**3790** 51
36 x 18	32 x 20 46 x 14 40 x 16	4.27	4.01	**CFM** Noise Criteria	**427** –	**854** –	**1281** 18	**1708** 25	**2135** 29	**2562** 36	**2989** 41	**3416** 46	**3843** 49	**4270** 53
26 x 26	28 x 24 48 x 14	4.47	4.19	**CFM** Noise Criteria	**447** –	**894** –	**1341** 18	**1788** 25	**2235** 30	**2682** 36	**3129** 41	**3576** 46	**4023** 49	**4470** 53
30 x 24	28 x 26 36 x 20 32 x 22 40 x 18	4.77	4.46	**CFM** Noise Criteria	**477** –	**954** –	**1431** 19	**1908** 26	**2385** 31	**2862** 37	**3339** 42	**3816** 46	**4293** 50	**4770** 54
28 x 28	30 x 26 40 x 20 36 x 22	5.20	4.85	**CFM** Noise Criteria	**520** –	**1040** –	**1560** 19	**2080** 26	**2600** 31	**3120** 37	**3640** 42	**4160** 47	**4680** 50	**5200** 54
36 x 24	30 x 28 44 x 20 40 x 22	5.74	5.35	**CFM** Noise Criteria	**574** –	**1148** –	**1722** 19	**2296** 26	**2870** 32	**3444** 38	**4018** 42	**4592** 47	**5166** 51	**5740** 55
30 x 30	34 x 26 48 x 20 38 x 24	5.99	5.57	**CFM** Noise Criteria	**599** –	**1198** –	**1797** 19	**2396** 26	**2995** 32	**3594** 38	**4193** 43	**4792** 47	**5391** 51	**5990** 55

For performance data notes, see F46.

PERFORMANCE DATA:

FIXED BLADE RETURN GRILLES AND REGISTERS • 5100, 6100 AND 6700 SERIES

MODELS: 5155H, 6155H, 6755H, 5155V, 6155V, 6755V, 51FB55, 61FB55, 67FB55

Listed Duct Size (inches)	Alternate Sizes (inches)	Core Area (sq. ft.)	Ak Factor	Core Velocity Velocity Pressure Neg. Static Pressure	100 .001 .005	200 .002 .018	300 .006 .041	400 .010 .073	500 .016 .114	600 .022 .164	700 .031 .223	800 .040 .292	900 .050 .369	1000 .062 .456
32 x 32	36 x 30 46 x 22 38 x 28	6.84	6.34	**CFM** Noise Criteria	**684** –	**1368** 15	**2052** 20	**2736** 27	**3420** 33	**4104** 39	**4788** 43	**5472** 48	**6156** 52	**6840** 56
48 x 24	34 x 34 38 x 30 36 x 32 48 x 28	7.69	7.13	**CFM** Noise Criteria	**769** –	**1538** 16	**2307** 21	**3076** 27	**3845** 33	**4614** 39	**5383** 44	**6152** 48	**6921** 52	**7690** 56
36 x 36	38 x 34 46 x 28 42 x 30 48 x 26	8.69	8.02	**CFM** Noise Criteria	**869** –	**1738** 17	**2607** 21	**3476** 28	**4345** 33	**5214** 40	**6083** 45	**6952** 49	**7821** 53	**8690** 57
38 x 38	42 x 34 48 x 30 44 x 34	9.70	8.94	**CFM** Noise Criteria	**970** –	**1940** 18	**2910** 22	**3880** 28	**4850** 34	**5820** 40	**6790** 45	**7760** 49	**8730** 53	**9700** 57
40 x 40	42 x 36 48 x 32 46 x 34	10.77	9.90	**CFM** Noise Criteria	**1077** –	**2154** 18	**3231** 23	**4308** 29	**5385** 35	**6462** 41	**7539** 47	**8616** 50	**9693** 55	**10770** 59
42 x 42	44 x 40 48 x 36 46 x 38	11.89	10.92	**CFM** Noise Criteria	**1189** –	**2378** 19	**3567** 24	**4756** 30	**5945** 36	**7134** 42	**8323** 47	**9512** 51	**10701** 55	**11890** 59
44 x 44	46 x 42	13.07	11.98	**CFM** Noise Criteria	**1307** –	**2614** 19	**3921** 24	**5228** 30	**6535** 36	**7842** 42	**9149** 47	**10456** 51	**11763** 55	**13070** 59
46 x 46		14.30	13.10	**CFM** Noise Criteria	**1430** 15	**2860** 20	**4290** 25	**5720** 31	**7150** 37	**8580** 43	**10010** 48	**11440** 52	**12870** 56	**14300** 60
48 x 48		15.59	14.26	**CFM** Noise Criteria	**1559** 15	**3118** 20	**4677** 25	**6236** 31	**7795** 37	**9354** 43	**10913** 48	**12472** 52	**14031** 56	**15590** 60

Performance Notes:

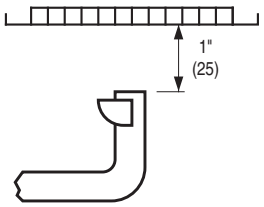
1. All pressures are in inches w.g..
2. Core Velocity is in feet per minute.
3. Performance data is for grille with opposed blade damper. Apply the following correction factors for grille without damper.

Negative Static Pressure Listed Value x 0.91.

Noise Criteria Listed value – 4.

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

Air Measurement



Alnor Velometer with 2220A or 6070P Jet Probe

Airflow Measurements:

1. Balancing factors are applicable with or without dampers, providing uniform airflow exists into grille or register.
2. Take velocity readings at a number of locations on the inlet face (a minimum of 4), while positioning probe as shown above, one inch out from the face.
3. Total the various velocity readings and divide by the number of readings taken to arrive at an average inlet velocity (Vk in FPM).
4. Calculate the airflow (CFM) by multiplying the average velocity by the appropriate Ak factor.
Airflow (CFM) = Average velocity (Vk) x Ak.

HOW TO ORDER OR TO SPECIFY

MODEL SERIES: 5100

ALUMINUM RETURN GRILLES AND REGISTERS – FIXED BLADES

EXAMPLE: 5145H - O - 24 x 12 - S - — - AW - DBK - A - —

1. **Models**
   Horizontal/Long Dimension Blades:
   51FH Fixed, 0° Deflection, 3/4" (19) Spacing
   5145H Fixed, 45° Deflection, 3/4" (19) Spacing
   5155H Fixed, 45° Deflection, 1/2" (13) Spacing
   Vertical/Short Dimension Blades:
   51FV Fixed, 0° Deflection, 3/4" (19) Spacing
   5145V Fixed, 45° Deflection, 3/4" (19) Spacing
   5155V Fixed, 45° Deflection, 1/2" (13) Spacing
2. **Damper (OBD)**
   (model suffix)
   O Steel
   OA Aluminum
   — None
3. **Nominal Width x Height**
   inches (mm)
   For Types S, NF, PL, SP, MP, FP and TP; W x H = Duct Size.
   Types L & A; W x H = Ceiling Module Size.
4. **Frame/Border Type**
   Surface Mount:
   S Surface Mount Border 1 1/4" (32) (default)
   NF Narrow Frame/Border 1" (25)
   Ceiling Grid:
   L Lay-in T-Bar *
   A Angle Frame
   Panel Mount: **
   PLS Steel Lay-in T-Bar Panel
   PLA Aluminum Lay-in T-Bar Panel
   FPS Steel Fineline® Panel
   FPA Aluminum Fineline® Panel
   SPS Steel Spline Panel
   SPA Aluminum Spline Panel
   MPS Steel Metal Pan Panel
   MPA Aluminum Metal Pan Panel
   TPS Steel Tegular Panel
   TPA Aluminum Tegular Pan Panel
5. **Ceiling Module Size**
   (Use only for Panel Mounting, Frame/Border Types PL, SP, MP, FP, TP)
   — None (default)

Imperial	Metric:
12" x 12"	(300 x 300)
20" x 20"	(500 x 500)
24" x 12"	(600 x 300)
24" x 24"	(600 x 600)
36" x 12"	(900 x 300)
36" x 24"	(900 x 600)
48" x 12"	(1200 x 300)
48" x 24"	(1200 x 600)

6. **Finish**
   AW Appliance White (default)
   AL Aluminum
   BK Black
   BW British White
   LBP Light Bronze Paint
   MBP Medium Bronze Paint
   DBP Dark Bronze Paint
   MI Mill
   PC Prime Coat
   SA Satin Anodized (clear)
   SP Special Custom Color
7. **Opposed Blade Damper Finish**
   DMI Mill (default)
   DBK Painted Black
8. **Fastening**
   (Only for Frame/Border Types S, NF)
   A Standard Screw Holes (default)
   C Concealed Mounting Straps ***
   D Concealed Screw Holes in Neck ****
   N None

OPTIONS & ACCESSORIES:

— None (standard) (default)

9. **Insect Screen**
   IS Insect Screen
10. **Plaster Sub-Frame**
    PF Plaster Sub-Frame
11. **Gaskets**
    GK Foam Gasket
12. **Earthquake Tabs**
    EQT Earthquake Tabs

Notes:

1. For a standard grille with no special requirements, specification is only required as far as the damper selection.

The "default" will automatically select "standard". For example, an aluminum 45° deflection register, 3/4" (19) blade spacing, horizontal orientation and steel damper, is **Model 5145H-O**. Unit will be supplied with screw holes and AW Appliance White finish.

2. The horizontal dimension must always be specified first; for example 24" x 12" (610 x 305) or 12" x 24" (305 x 610).

3.* For Type L Lay-in, Grille Neck Size is Ceiling Module Size – 2" (51).

** For Panel Mounting, Maximum Grille Neck Size is Ceiling Module Size – 3" (76).

Refer to Options and Accessories page no. F194 for dimensional data.

*** Not available with 1/2" (13) blade spacing models.

****Only available on Fixed 0° models.

MODEL SERIES: 5100

ALUMINUM RETURN GRILLES AND REGISTERS – FIXED BLADES

SUGGESTED SPECIFICATION:

Furnish and install **Nailor Model** (select one) **5145H, 5145V, 5155H, 5155V, 51FH** or **51FV Return Grilles** of the types and sizes as shown on the plans and air distribution schedules. The grilles shall have extruded aluminum fixed blades and extruded aluminum frames that have reinforced mitered corners. The finish shall be AW Appliance White (optional finishes are available).

(Optional) An opposed blade damper constructed of heavy gauge corrosion-resistant steel (aluminum is optional) and operable from the face of the grille, shall be provided with all units.

The manufacturer shall provide published performance data for the grille, which shall be tested in accordance with ANSI/ASHRAE Standard 70 – 2006.

HOW TO ORDER OR TO SPECIFY

MODEL SERIES: 6100
STEEL RETURN GRILLES AND REGISTERS – FIXED BLADES

EXAMPLE: 6145H - O - 24 x 12 - S - — - AW - DBK - A - —

1. **Models**
   Horizontal/Long Dimension Blades:
   61FH Fixed, 0° Deflection, 3/4" (19) Spacing
   6145H Fixed, 45° Deflection, 3/4" (19) Spacing
   6155H Fixed, 45° Deflection, 1/2" (13) Spacing
   Vertical/Short Dimension Blades:
   61FV Fixed, 0° Deflection, 3/4" (19) Spacing
   6145V Fixed, 45° Deflection, 3/4" (19) Spacing
   6155V Fixed, 45° Deflection, 1/2" (13) Spacing
2. **Damper (OBD)**
   (model suffix)
   O Steel
   — None
3. **Nominal Width x Height**
   inches (mm)
   For Types S, PL, SP, MP, FP and TP; W x H = Duct Size.
   Types L & A; W x H = Ceiling Module Size.
4. **Frame/Border Type**
   Surface Mount:
   S Surface Mount Border 1 1/4" (32) (default)
   Ceiling Grid:
   L Lay-in T-Bar *
   A Angle Frame
   Panel Mount: **
   PLS Steel Lay-in T-Bar Panel
   SPS Steel Spline Panel
   MPS Steel Metal Pan Panel
   FPS Steel Fineline® Panel
   TPS Steel Tegular Panel
5. **Ceiling Module Size**
   (Use only for Panel Mounting, Frame/Border Types PL, SP, MP, FP, TP)
   — None (default)

Imperial	**Metric:**
12" x 12"	(300 x 300)
20" x 20"	(500 x 500)
24" x 12"	(600 x 300)
24" x 24"	(600 x 600)
36" x 12"	(900 x 300)
36" x 24"	(900 x 600)
48" x 12"	(1200 x 300)
48" x 24"	(1200 x 600)

6. **Finish**
   AW Appliance White (default)
   AL Aluminum
   BK Black
   BW British White
   LBP Light Bronze Paint
   MBP Medium Bronze Paint
   DBP Dark Bronze Paint
   MI Mill
   PC Prime Coat
   SP Special Custom Color
7. **Opposed Blade Damper Finish**
   DMI Mill (default)
   DBK Painted Black
8. **Fastening**
   (Only for Frame/Border Type S)
   A Screw Holes (default)
   C Concealed Mounting Straps ***
   D Concealed Screw Holes in Neck ****
   N None

OPTIONS & ACCESSORIES:

— None (default)

9. **Insect Screen**
   IS Insect Screen
10. **Plaster Sub-Frame**
    PF Plaster Sub-Frame
11. **Gaskets**
    GK Foam Gasket
12. **Earthquake Tabs**
    EQT Earthquake Tabs

Notes:

1. For a standard grille with no special requirements, specification is only required as far as the damper selection.

   The "default" will automatically select "standard". For example, a steel 45° deflection register, 3/4" (19) blade spacing, horizontal orientation and steel damper, is **Model 6145H-O**. Unit will be supplied with screw holes and AW Appliance White finish.

2. The horizontal dimension must always be specified first; for example 24" x 12" (610 x 305) or 12" x 24" (305 x 610).

3. * For Type L Lay-in, Grille Neck Size is Ceiling Module Size – 2" (51).

   ** For Panel Mounting, Maximum Grille Neck Size is Ceiling Module Size – 3" (76).

   Refer to Options and Accessories page no. F194 for dimensional data.

   *** Not available with 1/2" (13) blade spacing models.

   **** Only available on Fixed 0° models.

MODEL SERIES: 6100
STEEL RETURN GRILLES AND REGISTERS – FIXED BLADES

SUGGESTED SPECIFICATION:

Furnish and install **Nailor Model** (select one) **6145H, 6145V, 6155H, 6155V, 61FH** or **61FV Return Grilles** of the types and sizes as shown on the plans and air distribution schedules. The grilles shall have roll-formed corrosion-resistant steel fixed blades and the frame is to be constructed from roll-formed corrosion-resistant steel and have reinforced mitered corners. The finish shall be AW Appliance White (optional finishes are available).

(Optional) An opposed blade damper, constructed of heavy gauge corrosion-resistant steel and operable from the face of the grille, shall be provided with all units.

The manufacturer shall provide published performance data for the grille, which shall be tested in accordance with ANSI/ASHRAE Standard 70 – 2006.

HOW TO ORDER OR TO SPECIFY

MODEL SERIES: 6700

STAINLESS STEEL RETURN GRILLES AND REGISTERS – FIXED BLADES

EXAMPLE: 6745H - O - 24 x 12 - S - #4 - A - 304 - PFS

1. **Models**
   Horizontal/Long Dimension Blades:
   - 67FH Fixed, 0° Deflection, 3/4" (19) Spacing
   - 6745H Fixed, 45° Deflection, 3/4" (19) Spacing
   - 6755H Fixed, 45° Deflection, 1/2" (13) Spacing

   Vertical/Short Dimension Blades:
   - 67FV Fixed, 0° Deflection, 3/4" (19) Spacing
   - 6745V Fixed, 45° Deflection, 3/4" (19) Spacing
   - 6755V Fixed, 45° Deflection, 1/2" (13) Spacing
2. **Damper (OBD)**
   (model suffix)
   - — None
   - O Stainless Steel
3. **Nominal Width x Height**
   inches (mm)
4. **Frame/Border Type**
   - S Surface Mount Border 1 3/8" (35) (default)
5. **Finish**
   - #4 Brushed Satin Polished (default)
   - AW Appliance White
6. **Fastening**
   - A Screw Holes (default)
   - N None

OPTIONS & ACCESSORIES:

7. **Construction**
   - 304 Type 304 Stainless Steel (default)
   - 316 Type 316 Stainless Steel
8. **Plaster Sub-Frame**
   - PFS Stainless Steel Plaster Sub-frame

Notes:

1. For a standard grille with no special requirements, specification is only required as far as the damper selection.

The "default" will automatically select "standard". For example, a Type 304 stainless steel 45° deflection register, 3/4" (19) blade spacing, horizontal orientation and stainless steel damper, is **Model 6745H-O**. Unit will be supplied with screw holes and #4 Brushed Satin Polished finish.

2. The larger dimension must always be specified first; for example 24" x 12" (610 x 305), not 12" x 24" (305 x 610).

MODEL SERIES: 6700

STAINLESS STEEL RETURN GRILLES AND REGISTERS – FIXED BLADES

SUGGESTED SPECIFICATION:

Furnish and install **Nailor Model** (select one) **6745H, 6745V, 6755H, 6755V, 67FH** or **67FV Return Grilles** of the types and sizes as shown on the plans and air distribution schedules. The grilles shall be constructed entirely from 304 stainless steel (316 optional), and have a single set of streamlined shaped roll-formed fixed blades. The frames shall be constructed of heavy gauge stainless steel and have reinforced mitered corners. All exposed surfaces shall have a #4 Brushed Satin Polished finish (optional finish is AW Appliance White).

(Optional) A stainless steel opposed blade damper, adjustable from the face of the grille, shall be provided with all units.

The manufacturer shall provide published performance data for the grille, which shall be tested in accordance with ANSI/ASHRAE Standard 70 – 2006.

PRODUCT OVERVIEW OPTIONS AND ACCESSORIES FOR GRILLES AND REGISTERS

MOUNTING FRAMES

- Up to four methods of fastening available for most models.
- Sub-frame available for professionally finished openings.
- Surface mount adapter frame for plaster and sheet rock ceilings are available in steel and aluminum. They simplify installation, save time and allow ceiling plenum access.
- Panel mounting available to suit architectural ceiling systems.

OPTIONS

- A selection of optional items that are available on grilles and registers.
- Information on custom sizing for special applications.

FINISHES

- Selection of standard and non-standard finishes to choose from.
- Anodizing of aluminum products.

AIR BALANCING DEVICES

- Opposed blade dampers for every application.
- Volume extractors.

Effective air balancing of an HVAC System requires the correct selection, specification and installation of the right product to suit the system design.

Nailor offers a comprehensive range of models and options to cover all applications.

Nailor balancing devices are:

- Easy to select and specify. Many items can be supplied as factory mounted or packaged accessories on grilles and registers.
- Designed to offer a smooth, accurate and predictable response during adjustment for precise air metering.
- Designed to provide quick access and adjustment.
- Engineered with attention to optimizing airflow, in order to minimize noise, turbulence and pressure drop.

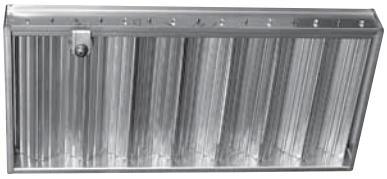
Model PF
Sub-Frame

Model DFA
Drywall/Plaster Frame
Surface Mount
Ceiling Adapter

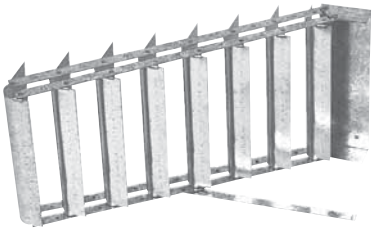
Model OBD
Opposed Blade Damper
Steel, Neck Mount

Model OBDD
Opposed Blade Damper
Steel, Duct Mount

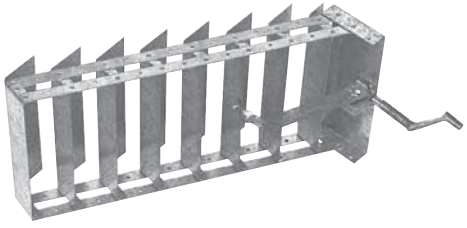
Model OBD-A
Opposed Blade Damper
Aluminum, Neck Mount



Model OBD-SS
Opposed Blade Damper
Stainless Steel, Neck Mount



Model EX-1
Volume Extractor



Model EX-1
Volume Extractor

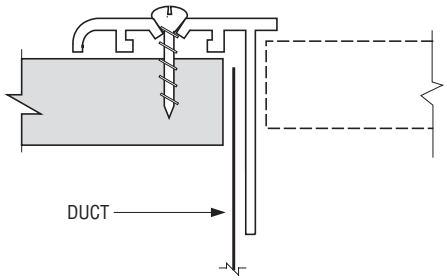
Fastening and Border Frames

Type A Screw Fastening (External)

Standard method of fastening for all Nailor grilles and registers in surface mount applications. All Nailor grilles and registers are supplied this way unless specified otherwise. Universal application for all models and cost effective installation.

Screw holes are countersunk in the frame for most models to provide an aesthetically pleasing appearance and are sized for #8 x 1 1/2" (38) oval-head screws which are supplied from the factory packed with each grille or register and are painted to match the specified finish.

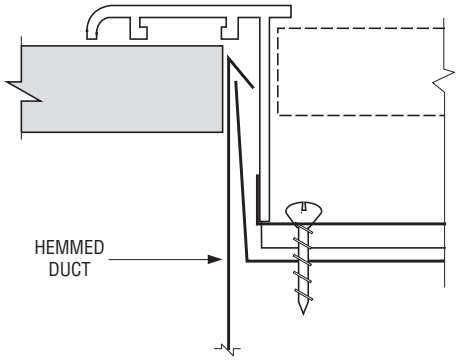
Type A Screw Fastening (external)
Standard



Type C Concealed Mounting

Grilles and registers are supplied with concealed mounting straps (at additional cost) which permit surface mounting with concealed screws, allowing a clean frame appearance. The bracket is shipped loose for installation in the field (by others). The bracket attaches to the back of the grille screws to an adjustable mounting strap which can either be secured directly to the duct wall or hooked into a hem formed in the end of the duct. Not available on return grilles with 1/2" (13) spacing and a fixed angled blade deflection. Maximum size: 36" x 36" (914 x 914).

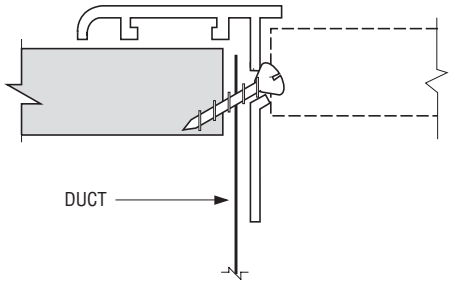
Type C Concealed Mounting



Type D Screw Fastening (Concealed)

Screw holes are provided in the neck of the grille or register frame. Screws are field installed at an angle through the grille frame and into the ductwork, providing a clean frame appearance. Installation is more difficult than Type A due to the space constriction between the grille blades. Care must be taken not to bend or scratch the grille. Not recommended on return air grilles with a fixed angled blade deflection as accessibility to screw holes is greatly restricted.

Type D Screw Fastening (concealed)

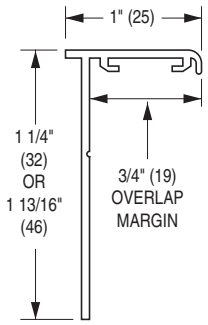


Type NF Narrow Frame

An optional reduced 1" (25) wide narrow border frame is available on most aluminum models to satisfy architectural considerations.

See individual models for availability.

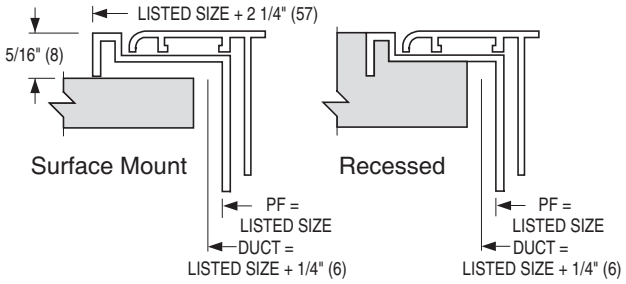
NF Narrow Frame



Mounting Frames

PF Plaster/Mounting Frame

Available (at additional cost) with most standard steel and aluminum grilles and registers. The Model PF Plaster Frame is constructed from extruded aluminum and provides a convenient and professional way for finishing off the grille or register opening. It provides a stable anchor for attachment, while enabling the grille or register to be detached and replaced readily without disturbing the finished surface of the wall or ceiling opening. It may be used for surface mounting on various materials or recess mounted in wet plaster.



Model PF Plaster Frame

DFS (Steel), DFA (Aluminum) Drywall/Plaster Frame

The DF Series are for mounting in finished drywall or plaster ceilings to accept any standard lay-in type grille, register, diffuser or other ceiling component. Installation of the air outlet is as simple as inserting them in a standard lay-in T-Bar type ceiling system.

The DF Series simplifies and reduces installation time compared with surface mount type diffusers. This is especially true where flexible duct is utilized. A major benefit is that the DF Series allows access to the ceiling plenum space above for maintenance purposes without the need for separate access doors. The finished appearance is professional and aesthetically pleasing.

Standard Finish: AW Appliance White. Other finishes are available.

Model DFS is installed quickly and easily using adjustable fastening angle brackets which adapt to various ceiling thicknesses. Frames are roll-formed corrosion-resistant steel with staked and mitered corners.

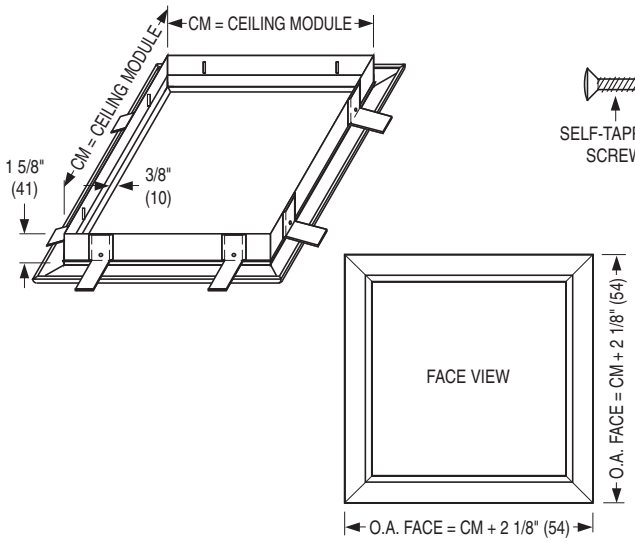
IMPERIAL MODULES		METRIC MODULES
Imperial Units (inches)	S.I. Units (mm)	S.I. Units (mm)
12 x 12	305 x 305	300 x 300
16 x 16	406 x 406	400 x 400
20 x 20	508 x 508	500 x 500
24 x 12	610 x 305	600 x 300
24 x 24	610 x 610	600 x 600

Ceiling opening = CM + 1/4" (6)

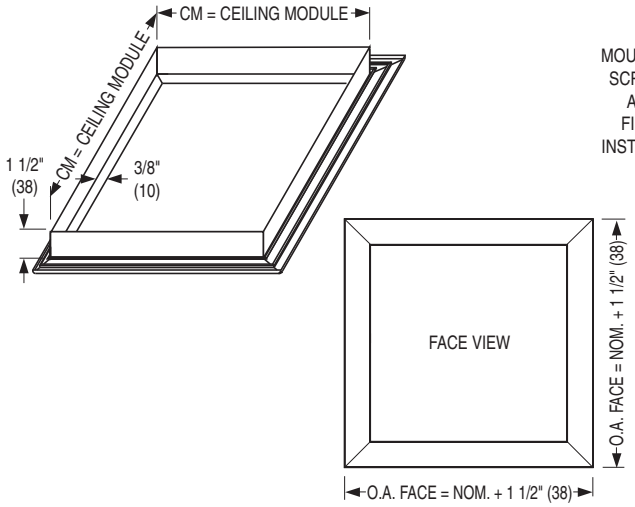
Model DFA requires framing of the ceiling opening with 'C' channel or wood studs for attachment with mounting screws (by others).

IMPERIAL MODULES		METRIC MODULES
Imperial Units (inches)	S.I. Units (mm)	S.I. Units (mm)
12 x 12	305 x 305	300 x 300
16 x 16	406 x 406	400 x 400
20 x 20	508 x 508	500 x 500
24 x 12	610 x 305	600 x 300
24 x 24	610 x 610	600 x 600
36 x 24	914 x 610	900 x 600
48 x 12	1219 x 305	1200 x 300
48 x 24	1219 x 1219	1200 x 600
60 x 12	1524 x 305	1500 x 300

Ceiling opening = CM + 1/4" (6)



Model DFS



Model DFA

Panel Mounting/Ceiling Modules

A panel can be added to the majority of Nailor's steel and aluminum return grilles to suit many special architectural ceiling designs and ceiling module sizes. These panel mount grilles are available in corrosion-resistant steel for the 6100 series steel grilles and both aluminum and corrosion-resistant steel for the 5100 and 7100 series aluminum grilles.

To specify a steel panel; add the suffix S to the end of the selected panel variant. To specify an aluminum panel; add the suffix A to the end of the selected panel variant. e.g. If a steel panel is required with a Spline Type ceiling module, the variant code will become SPS.

The maximum grille neck sizes available for panel mounting will be the ceiling module size selected - 3" (76).

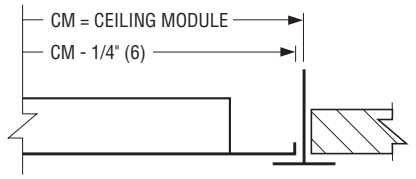
Available Ceiling Module Sizes

Ceiling Module	
Imperial Units (in.)	Metric Units (mm)
12 x 12 24 x 12 36 x 12	300 x 300 600 x 300 900 x 300
48 x 12 20 x 20 24 x 24	1200 x 300 500 x 500 600 x 600
36 x 24 48 x 24	900 x 600 1200 x 600

Border Type PL: Lay-in T-Bar

Grille or register is mounted in an extended panel to suit standard T-Bar Lay-in Type ceilings.

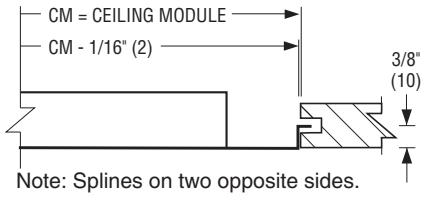
Type PL



Border Type SP: Spline

The grille or register is mounted in an extended panel to suit spline type ceiling modules.

Type SP

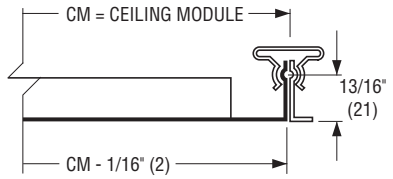


Note: Splines on two opposite sides.
Steel lift brackets on the other two sides

Border Type MP: Metal Pan/Snap-in

The grille or register is mounted in an extended panel to suit metal pan ceilings that have snap-in type ceiling modules.

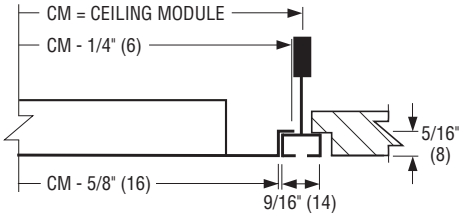
Type MP



Border Type FP: Narrow Regressed T-Bar (Fineline®)

The grille or register is mounted in an extended panel that will fit a narrow regressed T-Bar ceiling grid.

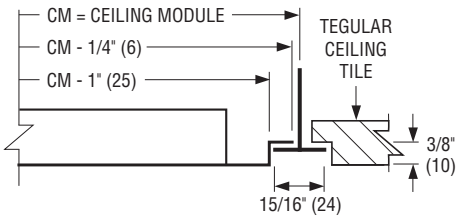
Type FP



Border Type TL: Tegular Type T-Bar

The grille or register is mounted in a panel that will extend below the T-Bar ceiling grid.

Type TL



Options, Custom Sizing and Finishes

OPTIONS:

RACA Return Air Crosstalk Attenuator

Return Air Crosstalk Attenuator is designed to greatly reduce the amount of sound transferred from the return air plenum through open vents or return grilles, into the adjoining space.

EQT Earthquake Tabs

Earthquake (seismic) retaining safety tabs are available; factory installed on grilles or registers when required by local building code that units be independently restrained and safety wired to supporting structure.

GK Foam Gaskets

An optional foam gasket is available factory installed on the rear of all Type S corrosion-resistant steel and aluminum surface mount grilles and registers.

Eliminates air leakage and the possibility of dirt streaking and smudging from entrainment, particularly when installed on unevenly finished surfaces such as stucco.

IS Insect Screen

1/16" (2) galvanized steel mesh, factory installed.

CUSTOM SIZING:

Oversized Units

For specialized applications and architectural considerations; certain grilles and registers can be manufactured in single sections larger than the standard published maximum size at additional cost. Aspect ratio, tolerances, manufacturing capability and weight have all to be considered by the factory prior to acceptance. Consult your Nailor representative for specific applications.

Fractional/Hard Metric Sizes

Nailor grilles and registers have been designed and are manufactured to suit HVAC systems where the duct design has been done using Imperial Units of measurement (i.e. feet and inches). The majority of Nailor grilles and registers are fabricated as standard in 1" (25) nominal incremental units, giving the designer great flexibility during sizing selection.

At additional cost, the majority of Nailor grilles and registers can be custom fabricated in fractional sizes for special applications and in Hard Metric (S.I. Units) when the HVAC duct design has been done using the Metric System.

Consult your Nailor representative for availability on specific project applications.

FINISHES:

POWDER COAT

AW Appliance White (standard)

A white finish that is currently the industry standard. Closely matches standard finishes supplied by the majority of T-Bar ceiling system manufacturers. (No additional cost).

AL Aluminum

Contains suspended metal particles to give the appearance of a silver grey metallic or anodized finish. (No additional cost).

WH Off-White

Has a creamy appearance. (Additional cost)

BW British White

Matches most white ceiling tiles. (No additional cost)

LBP Light Bronze Paint

An economical alternative that closely matches industry standard anodizing in color, sheen and appearance. (Additional cost)

MBP Medium Bronze Paint

An economical alternative that closely matches industry standard anodizing in color, sheen and appearance. (Additional cost)

DBP Dark Bronze Paint

An economical alternative that closely matches industry standard anodizing in color, sheen and appearance. (Additional cost)

BK Black

This black has a matte finish. (Additional cost)

SP Special

The Nailor range of diffusers are available in any color for special architectural consideration. Custom colors are individually mixed to match customer supplied samples. (Additional cost)

ALUMINUM PRODUCT FINISHES:

SA Satin (Clear) Anodized

Adds a smooth satin finish to further protect the aluminum from corrosion (clear). (Additional cost)

STAINLESS STEEL PRODUCT FINISH ONLY:

#4 Brushed Satin Polished

Stainless Steel models only. (No additional cost)

ALSO AVAILABLE:

MI Mill Finish

(No additional cost).

PPA Paint Prepared Aluminum (Washed only)

(No additional cost).

PC Prime Coat Paint

Color will vary (Additional cost).

Sound Reduction for Return Air Grilles

RETURN AIR CROSSTALK ATTENUATOR – STEEL – RETURN AIR GRILLES

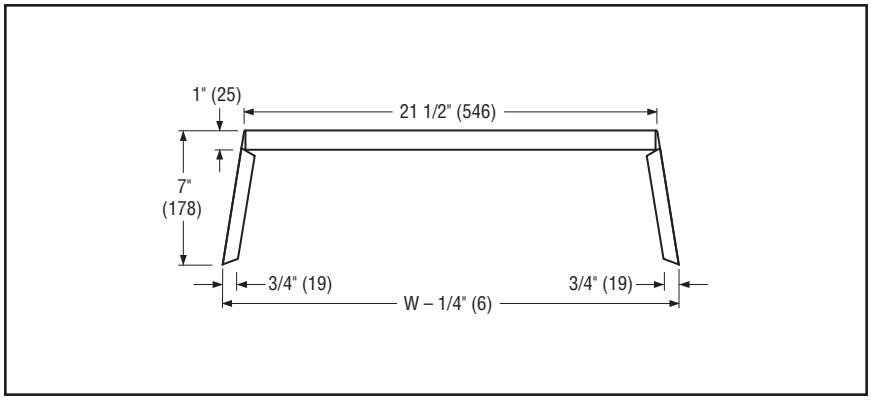
Nailor Model RACA Return Air Crosstalk Attenuator is designed to greatly reduce the amount of sound transferred from the return air plenum through open vents or return grilles, into the adjoining space. For use with non-ducted return grilles in Lay-in T-Bar applications, the RACA allows return air to flow through with minimal pressure drop, while reducing the sound transmission by 7 – 10 NC. Constructed of 22 gauge galvanized steel, the compact, light weight design takes up minimal space in the return plenum, rests on the ceiling grid for easy installation and works effectively as a light shield. Available with 1" (25) fiberglass insulation as standard or optional 1" (25) fiber-free closed cell foam insulation. The RACA fits standard grille sizes and is ideal for interior offices, conference rooms, hotel rooms as well as recording studios.

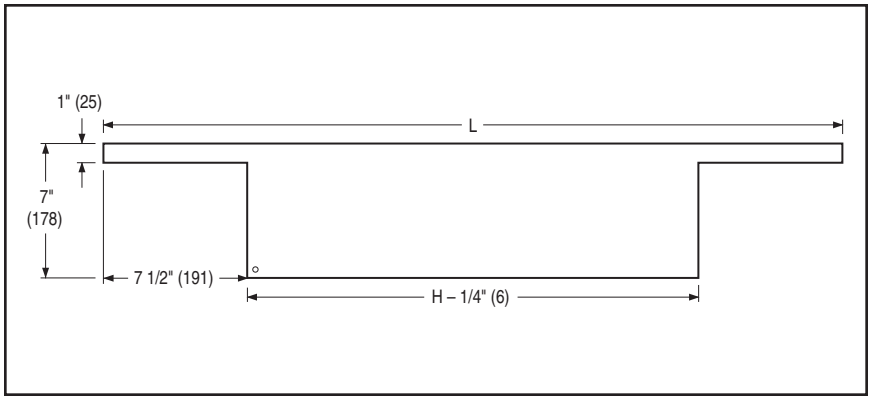
FEATURES:

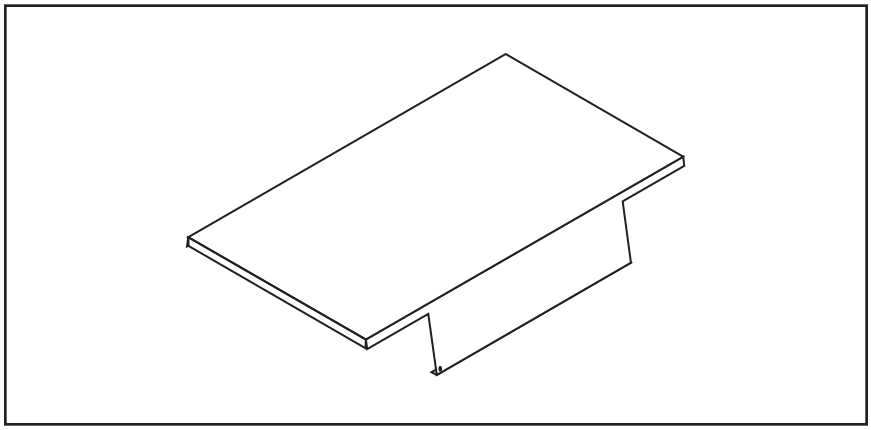
- Economical and light- weight design.
- Fits standard grille sizes.
- Easy installation sits on ceiling grid.
- Compact design takes up minimal space in return plenum.
- 1" (25) fiberglass insulation (standard).

DIMENSIONAL DATA:

CM Ceiling Module	W	H	L
12" x 12" (305 x 305)	12" (305)	12" (305)	26 1/2" (673)
24" x 12" (610 x 305)	24" (610)	12" (305)	26 1/2" (673)
20" x 20" (508 x 508)	20" (508)	20" (508)	34 1/2" (876)
24" x 24" (610 x 610)	24" (610)	24" (610)	38 1/2" (978)
30" x 30" (762 x 762)	30" (762)	30" (762)	44 1/2" (1130)
48" x 24" (1219 x 610)	48" (1219)	24" (610)	38 1/2" (978)







Air Balancing Devices

OPPOSED BLADE DAMPERS — STEEL AND ALUMINUM

Nailor Opposed Blade Dampers are manufactured from heavy gauge, roll-formed, corrosion-resistant steel or extruded aluminum blades and frame with miscellaneous steel components.

The gang operated multi-blade design with blades closing at 45 degrees permits fine volume control for accurate balancing with minimum disturbance to the airflow pattern. Blades are individually pivoted on 1" (25) centers.

GRILLE MOUNT MODELS:

OBD Steel

OBD-A Aluminum

This style of damper mounts directly on the neck of the grille and is sized to fit most Nailor grilles. Uses steel barbed S-clips for easy field mounting or removal when ordered separately. Supplied as standard with a screwdriver slot operator (Type SL) on supply registers and a screwdriver pivot lever operator (Type PL) on fixed, angled deflection return registers. Type SL operator is standard if damper is ordered separately from grille. A lever operator (Type GL) is available as an option on fixed, angled deflection return registers.

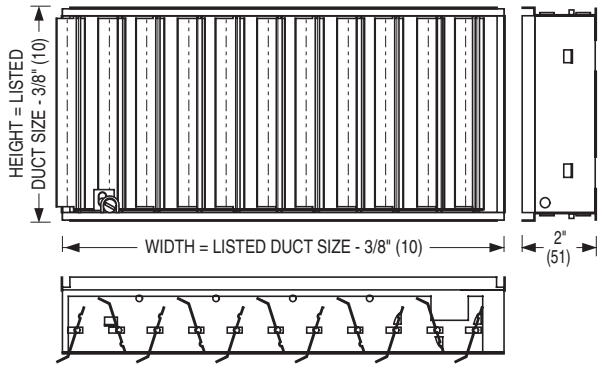
Can be specified as an integral part of the grille (register) by adding a - O (steel) or - OA (aluminum) suffix to the grille model.

Min. Size = 4" x 2 1/2" (102 x 64) Max. Size = 24" x 24" (610 x 610).

Type SL Operator

The SL Operator incorporates a screwdriver slot, which adjusts from the face of the register. This operator is the standard supplied with supply air registers such as the single and double deflection adjustable blade.

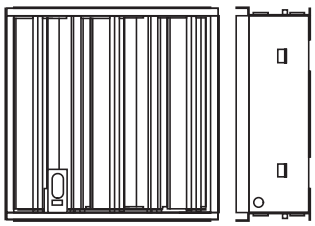
Model OBD Type SL (Screwdriver Slot)
Grille Mount – Face Operator



Type PL Operator

The PL Operator is a concealed pivot lever, which is adjusted from the face of the register using a screwdriver. This operator is for use only on fixed blade, angled deflection, return air grilles. When specifying, the blade orientation of the damper must be opposite of the grille.

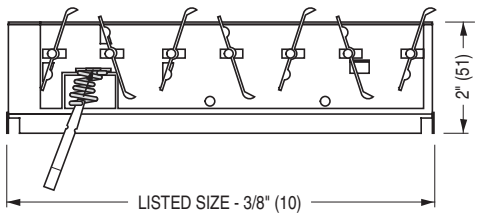
Type PL (Pivot Lever)



Type GL Operator

The GL Operator incorporates a lever that adjusts without the use of tools. The lever operator extends through the grille face and is an alternative for fixed blade, angled deflection, return air grilles. When specifying, the blade orientation of the damper must be opposite of the grille being used and the grille model must be specified.

Type GL (Lever)



Air Balancing Devices

DUCT MOUNT MODELS:

OBDD Steel

OBDD-A Aluminum

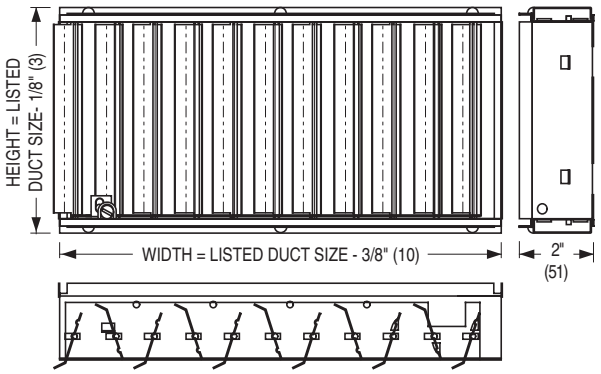
Designed for field installation, this damper mounts independently in the duct, separate from and behind the grille. Sized to suit and offer a friction fit in nominally sized ducts. Secure the dampers with 1/2" (13) long sheet metal screws (by others) through the double walled sub-frame. Supplied as standard with a screwdriver slot operator (Type SL).

Min. Size = 4" x 2 1/2" (102 x 64) Max. Size = 24" x 24" (610 x 610)

Type SL Operator

These models are supplied with a screwdriver slot face operator that is accessed from inside the duct by removing the grille.

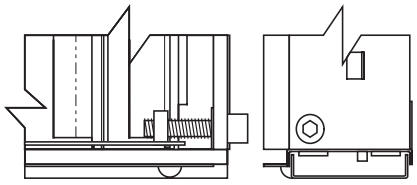
Model OBDD Type SL (Screwdriver Slot)
Duct Mount – Face Operator



Type EH Operator

The EH Operator incorporates an external hex device that penetrates the duct wall to provide control. For use with 3/16" (5) Allen key wrench (by others).

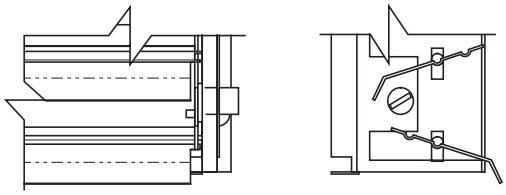
Model OBDD Type EH (Hex.)
Duct Mount – External Operator



Type EN Operator

The EN Operator incorporates an external (nylon) screwdriver slot device. This device is controlled externally through the duct.

Model OBDD Type EN (Screwdriver Slot)
Duct Mount – External Operator



Type QD Operator *

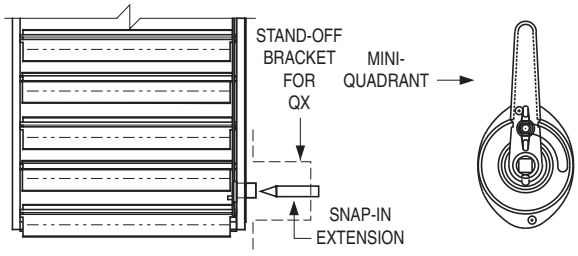
The QD Operator includes a nylon snap-in extension that fits an external (nylon) operator. This device also includes a hand locking quadrant operator for control and position indication.

Type QX Operator *

The QX Operator includes a nylon snap-in extension that fits an external (nylon) operator. This device also includes a 2" (51) stand-off bracket and hand locking quadrant for control and position indication. To ensure quadrant is located on vertical side of duct, specify damper with blades parallel to the horizontal duct dimension.

*Not available on Model OBDD-A

Type QD or Type QX (Hand Quadrant)



Air Balancing Devices

OPPOSED BLADE DAMPERS — STAINLESS STEEL

Nailor Stainless Steel Opposed Blade Dampers feature heavy gauge, roll-formed blades and a heavy duty frame in all stainless steel construction. Type 304 stainless steel is standard with Type 316 as an available option.

The gang operated multi-blade design with blades closing at 45 degrees permits fine volume control for accurate balancing with minimum disturbance to the airflow pattern. Blades are individually pivoted on 1" (25) centers.

GRILLE/DUCT MOUNT MODELS:

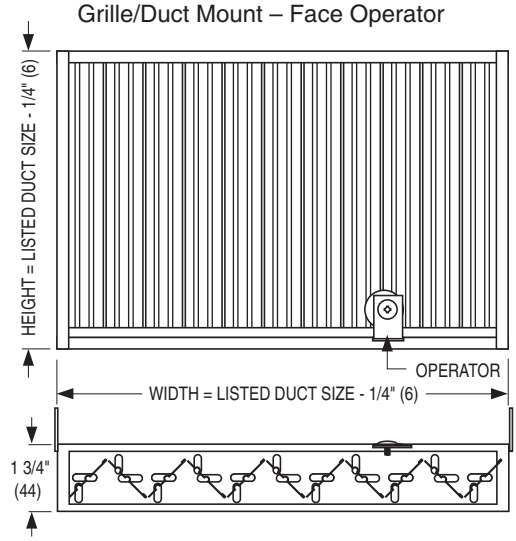
OBD-SS Stainless Steel

When ordered as part of the stainless steel grille, (using the suffix '-O' on the model number), the dampers are factory welded to the grille frame to provide a secure non-removable connection. If the dampers are ordered separately, they are supplied with mounting tabs. The tabs allow the dampers to be field installed onto a grille or to be mounted independently in the duct, separate from and behind the grille.

All Nailor stainless steel dampers feature a Philip's head screwdriver operator that is accessed through the face of the grille.

Model OBD-SS

Grille/Duct Mount – Face Operator



Volume Extractors

MODEL SERIES

EX Blades on 2" centers

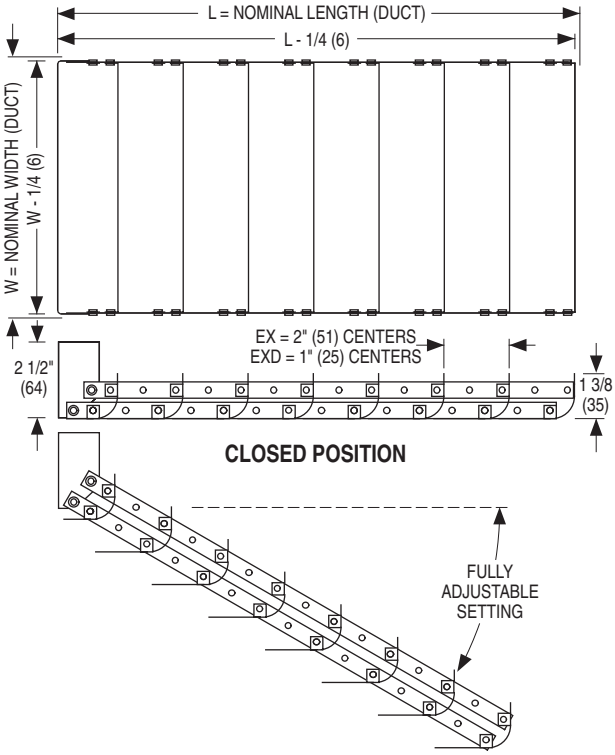
EXD Blades on 1" centers

The **Model Series EX Volume Extractors** uniformly divert air from the main duct into the branch take-off and across the face of a grille or diffuser. Gang-operated parallel blades available on 2" (51) or 1" (25) centers pivot from full open to full closed with blades overlapping for shut-off. The curved blade design improves airflow by reducing turbulence, thereby reducing noise and pressure drop.

Specify or order: Length x Width. (Length is first dimension. Blades are parallel to width, second dimension).

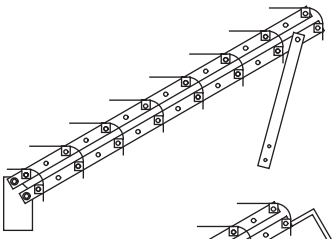
FEATURES:

- Material: Galvanized steel.
- Minimum size: 6" x 4" (152 x 102).
- Maximum size: 36" x 36" (914 x 914).

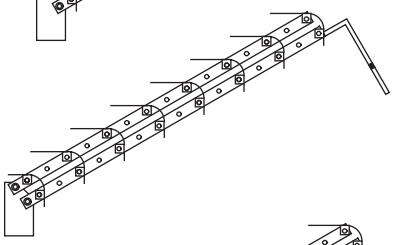


Operator Types

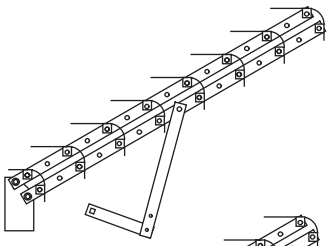
EX/EXD-1
Standard unit with adjusting strap.



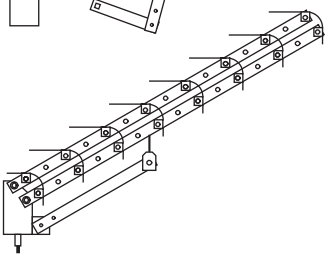
EX/EXD-1-R
Rod operator for external operation.



EX/EXD-2
Linkage with 7/16" (11) square hole (2 per unit). Remote operator (eg. Young Regulator #1) by others.



EX/EXD-3
Screw gear operator. Adjusts with 3/16" (48) wrench (by others).



Optional Accessories

RLD
Locking device for Models **EX/EXD-1-R**.