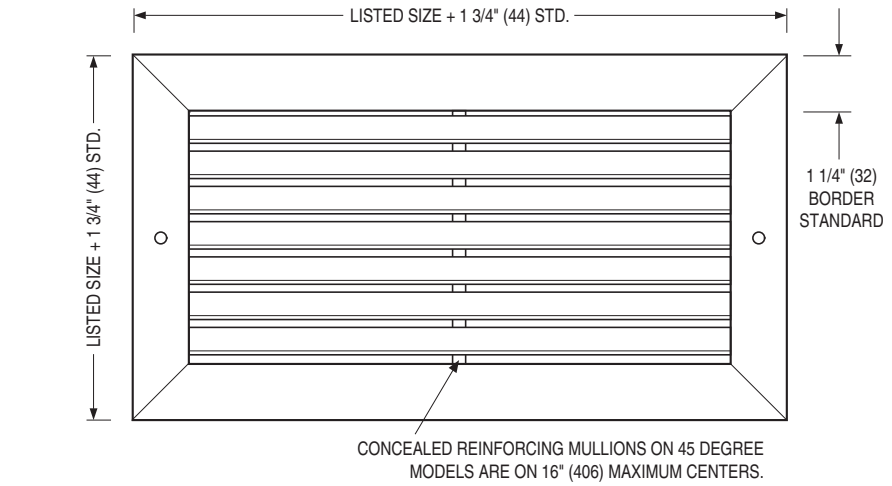
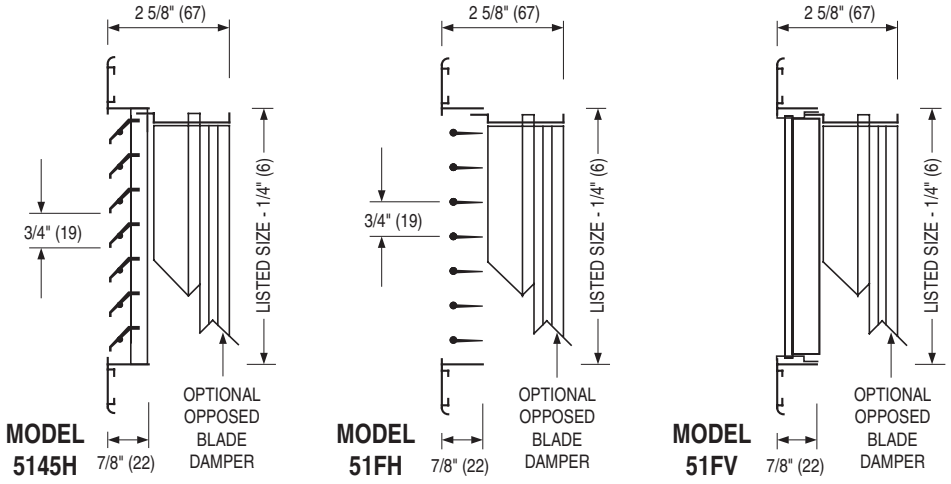
ALUMINUM RETURN GRILLES & REGISTERS
FIXED BLADES • 3/4" (19) SPACING
MODELS: 5145H(-O), 5145V(-O), 51FH(-O) AND 51FV(-O)

Nailor Industries Inc.





❑ **Frame/Border Type S:**
Surface Mount

❑ **Model 5145H**
Single Deflection Grille
Fixed 45° Horizontal Blades

❑ **Model 5145H-O**
Single Deflection Register
Fixed 45° Horizontal Blades
(Includes O. B. Damper)

❑ **Model 5145V**
Single Deflection Grille
Fixed 45° Vertical Blades

❑ **Model 5145V-O**
Single Deflection Register
Fixed 45° Vertical Blades
(Includes O. B. Damper)

❑ **Model 51FH**
Single Deflection Grille
Fixed 0° Horizontal Blades

❑ **Model 51FH-O**
Single Deflection Register
Fixed 0° Horizontal Blades
(Includes O. B. Damper)

❑ **Model 51FV**
Single Deflection Grille
Fixed 0° Vertical Blades

❑ **Model 51FV-O**
Single Deflection Register
Fixed 0° Vertical Blades
(Includes O. B. Damper)

DESCRIPTION:

1. Construction: Extruded aluminum.

   Rigid heavy-gauge frame mechanically interlocked with reinforced mitered corners. Rigid streamlined shape solid blades on 3/4" (19) centers are fixed at 0 or 45 degrees to match and compliment the supply grilles and registers. 45 degree models utilize a concealed rear reinforcing mullion and utilize a single blade pack that produces a continuous louvered blade appearance. 0 degree models utilize a visible face mullion when blade length exceeds 16" (406).
2. Optional roll-formed steel opposed blade damper has a screwdriver slot operator accessible through face of register.
3. Minimum size is 4" x 4" (102 x 102).

   Maximum size one piece construction is 48" x 48" (1219 x 1219).
4. Type S Surface Mount standard frame has a 1 1/4" (32) face border and a 1" (25) overlap margin. Available in multiple sections with mullions - see submittal OG-1-A.
5. Standard fastening is Type A countersunk screw holes.
6. Standard finish is AW Appliance White.

OPTIONS:

1. Finish:
   - ❑ SA Satin (clear) anodized (Type S and NF only)
   - ❑ SP Special _____ .
2. Fastening (Type S):
   - ❑ Type C Concealed mounting straps
   - ❑ Type N None.
3. ❑ OA Aluminum opposed blade damper.
4. ❑ Type NF Narrow frame with 1" (25) face border and a 3/4" (19) overlap margin. O.A. flange to flange dim. = listed size + 1 1/4" (32).
5. ❑ PF Plaster sub-frame
6. ❑ IS Insect screen
7. ❑ Other _____ .

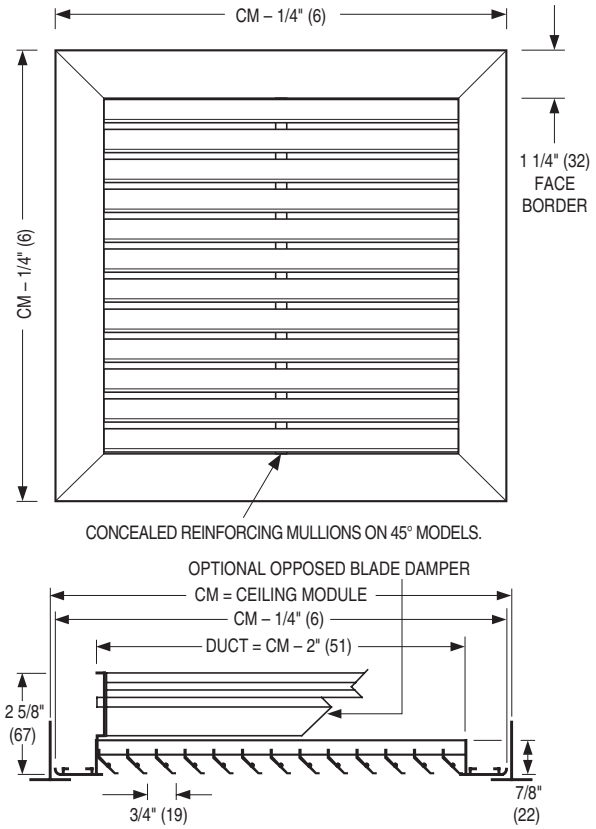
SCHEDULE TYPE:	Page 1 of 3 Dimensions are in inches (mm).			
PROJECT:				
ENGINEER:	**DATE**	**B SERIES**	**SUPERSEDES**	**DRAWING NO.**
CONTRACTOR:	**9 - 1 - 20**	**5100**	**10 - 1 - 19**	**5100-3**

Nailor® Industries Inc.

ALUMINUM RETURN GRILLES & REGISTERS
FIXED BLADES • 3/4" (19) SPACING
MODELS: 5145H(-O), 5145V(-O), 51FH(-O) AND 51FV(-O)

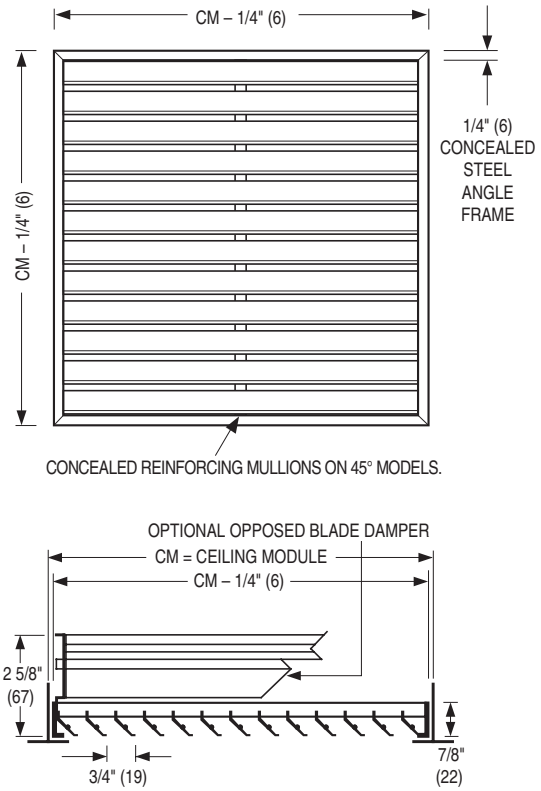
Full Face / Ceiling Modules

❑ Frame/Border Type L:
Lay-in T-Bar Mount



Model 5145H shown
Horizontal Blades (side view)

❑ Frame/Border Type A:
Concealed Angle Frame Lay-in T-Bar
(non-ducted applications)



Model 5145H shown
Horizontal Blades (side view)

DESCRIPTION:

1. Ordered by ceiling module size.
2. Type L frame use standard 1 1/4" (32) face frame/border and shows a partial reveal when installed in standard 15/16" (24) T-Bar. Duct size is 2" (51) smaller than ceiling module size.
3. Type A frame is a steel 1/4" (6) angle frame and is concealed when installed in T-Bar.

Available Border Type L and A Ceiling Module Sizes

Imperial Modules		Metric Modules
Imperial Units (in.)	Metric Units (mm)	S.I. Units (mm)
12 x 12	305 x 305	300 x 300
24 x 12	610 x 305	600 x 300
36 x 12	914 x 305	900 x 300
48 x 12	1219 x 305	1200 x 300
20 x 20	508 x 508	500 x 500
24 x 24	610 x 610	600 x 600
36 x 24	914 x 610	900 x 600
48 x 24	1219 x 610	1200 x 600

SCHEDULE TYPE:				
PROJECT:				
ENGINEER:	**DATE**	**B SERIES**	**SUPERSEDES**	**DRAWING NO.**
CONTRACTOR:	**9 - 1 - 20**	**5100**	**10 - 1 - 19**	**5100-3**

Dimensions are in inches (mm).

Nailor® Industries Inc.

ALUMINUM RETURN GRILLES & REGISTERS
FIXED BLADES • 3/4" (19) SPACING
MODELS: 5145H(-O), 5145V(-O), 51FH(-O) AND 51FV(-O)

Panel Mounted/Ceiling Modules

❑ **Border Type PLS: Steel Lay-in Panel**

❑ **Border Type PLA: Aluminum Lay-in Panel**

The grille or register is mounted in an extended panel to suit standard T-Bar Lay-in type ceilings.

❑ **Border Type FPS: Steel Fineline® Panel**

❑ **Border Type FPA: Aluminum Fineline® Panel**

The grille or register is mounted in an extended panel that will fit a 9/16" (14) narrow regressed (bolt slot) T-Bar ceiling grid or 9/16" (14) Flat T-Bar with tegular ceiling tile.

❑ **Border Type SPS: Steel Spline Panel**

❑ **Border Type SPA: Aluminum Spline Panel**

The grille or register is mounted in an extended panel to suit spline type ceiling modules. CM 24" x 24" (600 x 600) only.

❑ **Border Type MPS: Steel Metal Pan Panel**

❑ **Border Type MPA: Aluminum Metal Pan Panel**

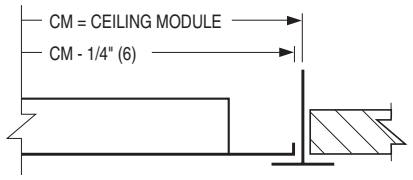
The grille or register is mounted in an extended panel to suit metal pan ceilings that have snap-in type ceiling modules. CM 24" x 24" (600 x 600) only.

❑ **Border Type TPS: Steel Tegular Panel**

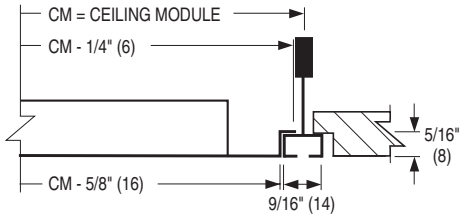
❑ **Border Type TPA: Aluminum Tegular Panel**

The grille or register is mounted in a panel that will extend below a 15/16" (24) Flat T-Bar ceiling grid.

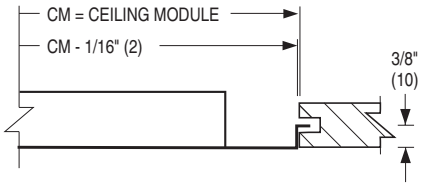
Type PL (S or A) Lay-in Panel



Type FP (S or A) Fineline® Panel

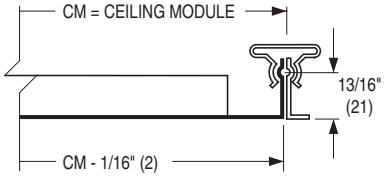


Type SP (S or A) Spline Panel

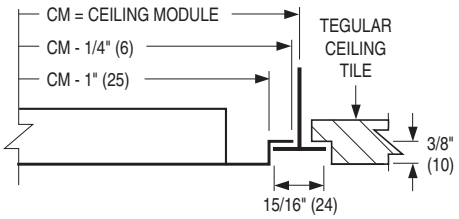


Note: Splines on two opposite sides.

Type MP (S or A) Metal Pan Panel



Type TP (S or A) Tegular Panel



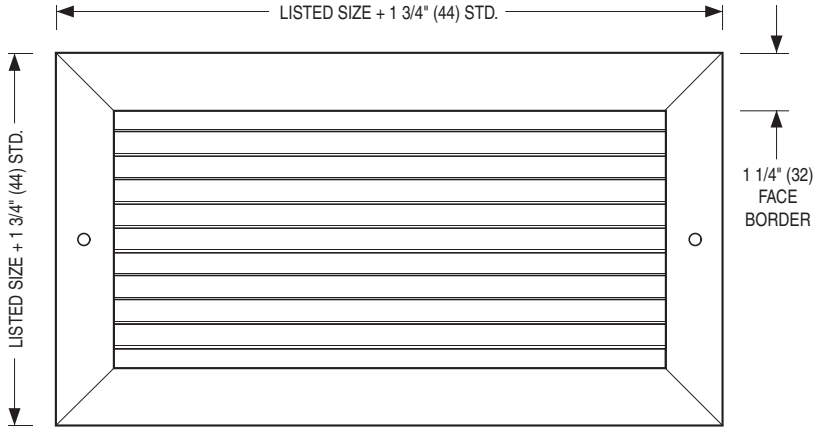
Available Border Type PL, FP and TP Ceiling Module Sizes

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

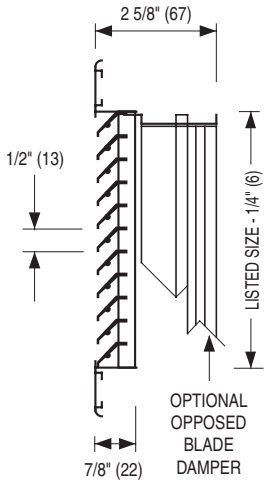
Maximum grille neck size is CM Ceiling Module – 3" (76).

SCHEDULE TYPE:	Page 3 of 3 Dimensions are in inches (mm).			
PROJECT:				
ENGINEER:	**DATE**	**B SERIES**	**SUPERSEDES**	**DRAWING NO.**
CONTRACTOR:	**9 - 1 - 20**	**5100**	**10 - 1 - 19**	**5100-3**

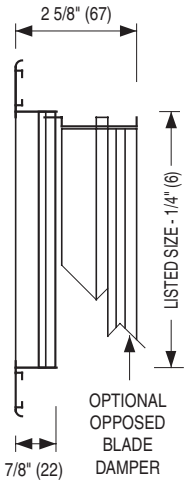
ALUMINUM RETURN GRILLES & REGISTERS
FIXED BLADES • 1/2" (13) CENTERS
MODELS: 5155H(-O) & 5155V(-O)



Model 5155H



MODEL 5155H
Horizontal Blades



MODEL 5155V
Vertical Blades

❑ **Frame/Border Type S:**
Surface Mount

❑ **Model 5155H**
Single Deflection Grille
Fixed 45° Horizontal Blades

❑ **Model 5155H-O**
Single Deflection Register
Fixed 45° Horizontal Blades
(Includes O. B. Damper)

❑ **Model 5155V**
Single Deflection Grille
Fixed 45° Vertical Blades

❑ **Model 5155V-O**
Single Deflection Register
Fixed 45° Vertical Blades
(Includes O. B. Damper)

DESCRIPTION:

1. Construction: Extruded aluminum. Rigid heavy-gauge frame mechanically interlocked with reinforced mitered corners. Rigid streamlined shape solid blades on 1/2" (13) centers are fixed at 45 degrees. Concealed rear reinforcing mullions on maximum 16" (406) centers produce a continuous louvered blade appearance.
2. Optional roll-formed steel opposed blade damper has a concealed lever operator.
3. Minimum size is 4" x 4" (102 x 102).
   Maximum size one piece construction is 48" x 48" (1219 x 1219).
4. Type S Surface mount standard frame has a 1 1/4" (32) face border and a 1" (25) overlap margin. Available in multiple sections with mullions - see submittal OG-1-A.
5. Standard fastening is Type A countersunk screw holes.
6. Standard finish is AW Appliance White.

OPTIONS:

1. Finish:
   - ❑ AL Aluminum
   - ❑ SA Satin (clear) anodized (Type S and NF only)
   - ❑ SP Special _____ .
2. Fastening (Type S):
   - ❑ Type N None.
3. ❑ OA Aluminum opposed blade damper.
4. ❑ Type NF Narrow frame with 1" (25) face border and a 3/4" (19) overlap margin. O.A. flange to flange dim. = listed size + 1 1/4" (32).
5. ❑ PF Plaster sub-frame
6. ❑ IS Insect screen
7. ❑ Other _____ .

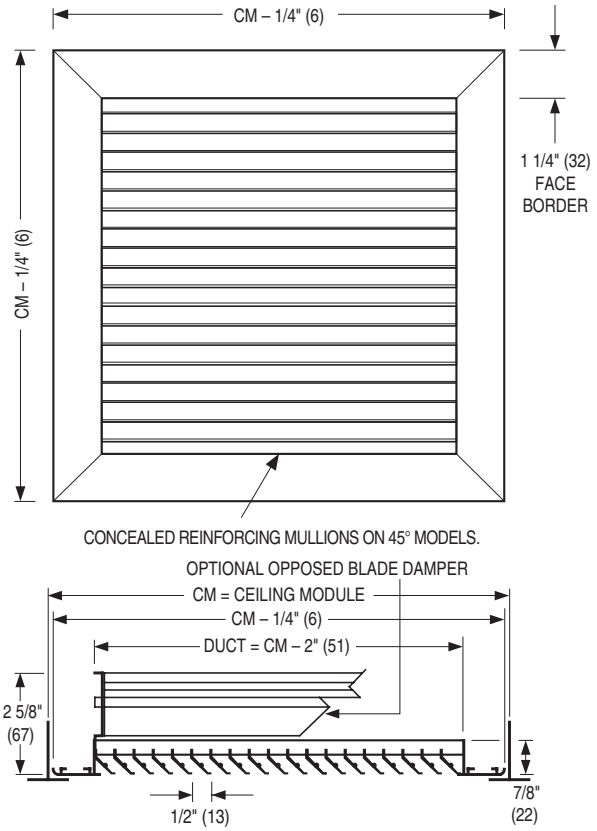
SCHEDULE TYPE:	Page 1 of 3 Dimensions are in inches (mm).			
PROJECT:				
ENGINEER:	**DATE**	**B SERIES**	**SUPERSEDES**	**DRAWING NO.**
CONTRACTOR:	**9 - 1 - 20**	**5100**	**10 - 1 - 19**	**5100-4**

Nailor® Industries Inc.

ALUMINUM RETURN GRILLES & REGISTERS
FIXED BLADES • 1/2" (13) CENTERS
MODELS: 5155H(-O) & 5155V(-O)

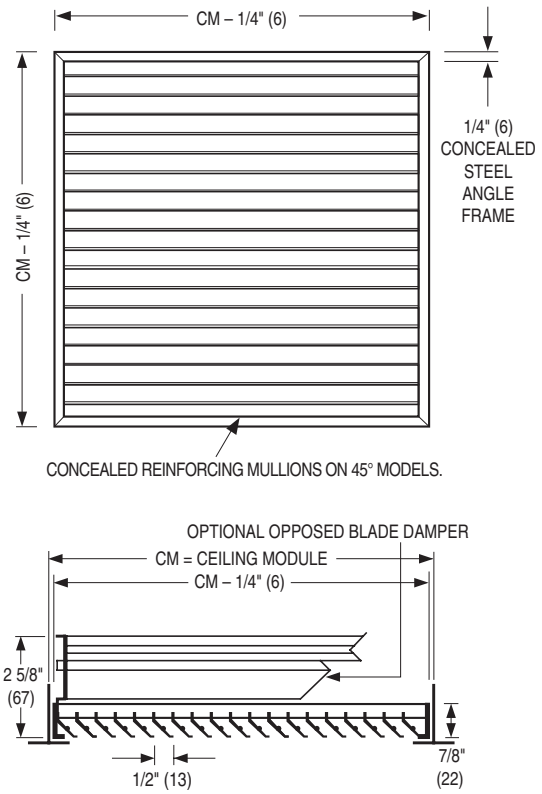
Full Face / Ceiling Modules

❑ Frame/Border Type L:
Lay-in T-Bar Mount



Model 5155H shown
Horizontal Blades (side view)

❑ Frame/Border Type A:
Concealed Angle Frame Lay-in T-Bar
(non-ducted applications)



Model 5155H shown
Horizontal Blades (side view)

DESCRIPTION:

1. Ordered by ceiling module size.
2. Type L frame use standard 1 1/4" (32) face frame/border and shows a partial reveal when installed in standard 15/16" (24) T-Bar. Duct size is 2" (51) smaller than ceiling module size.
3. Type A frame is a steel 1/4" (6) angle frame and is concealed when installed in T-Bar.

Available Border Type L and A Ceiling Module Sizes

Imperial Modules		Metric Modules
Imperial Units (in.)	Metric Units (mm)	S.I. Units (mm)
12 x 12	305 x 305	300 x 300
24 x 12	610 x 305	600 x 300
36 x 12	914 x 305	900 x 300
48 x 12	1219 x 305	1200 x 300
20 x 20	508 x 508	500 x 500
24 x 24	610 x 610	600 x 600
36 x 24	914 x 610	900 x 600
48 x 24	1219 x 610	1200 x 600

Dimensions are in inches (mm).

SCHEDULE TYPE:				
PROJECT:				
ENGINEER:	DATE	B SERIES	SUPERSEDES	DRAWING NO.
CONTRACTOR:	9 - 1 - 20	5100	10 - 1 - 19	5100-4

Nailor® Industries Inc.

ALUMINUM RETURN GRILLES & REGISTERS
FIXED BLADES • 1/2" (13) CENTERS
MODELS: 5155H(-O) & 5155V(-O)

Panel Mounted/Ceiling Modules

- ❑ **Border Type PLS: Steel Lay-in Panel**
- ❑ **Border Type PLA: Aluminum Lay-in Panel**

The grille or register is mounted in an extended panel to suit standard T-Bar Lay-in type ceilings.

- ❑ **Border Type FPS: Steel Fineline® Panel**
- ❑ **Border Type FPA: Aluminum Fineline® Panel**

The grille or register is mounted in an extended panel that will fit a 9/16" (14) narrow regressed (bolt slot) T-Bar ceiling grid or 9/16" (14) Flat T-Bar with tegular ceiling tile.

- ❑ **Border Type SPS: Steel Spline Panel**
- ❑ **Border Type SPA: Aluminum Spline Panel**

The grille or register is mounted in an extended panel to suit spline type ceiling modules. CM 24" x 24" (600 x 600) only.

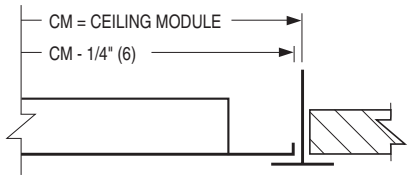
- ❑ **Border Type MPS: Steel Metal Pan Panel**
- ❑ **Border Type MPA: Aluminum Metal Pan Panel**

The grille or register is mounted in an extended panel to suit metal pan ceilings that have snap-in type ceiling modules. CM 24" x 24" (600 x 600) only.

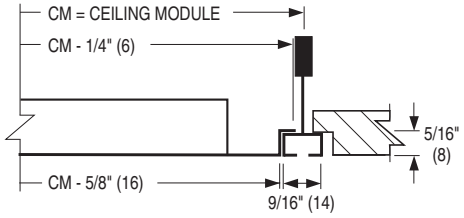
- ❑ **Border Type TPS: Steel Tegular Panel**
- ❑ **Border Type TPA: Aluminum Tegular Panel**

The grille or register is mounted in a panel that will extend below a 15/16" (24) Flat T-Bar ceiling grid.

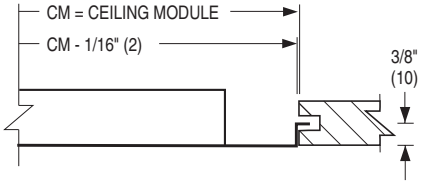
Type PL (S or A) Lay-in Panel



Type FP (S or A) Fineline® Panel

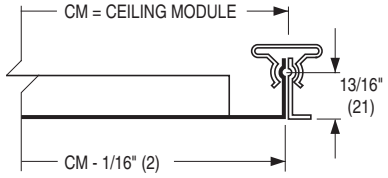


Type SP (S or A) Spline Panel

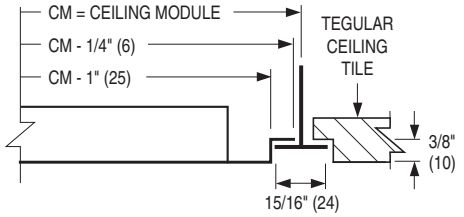


Note: Splines on two opposite sides.

Type MP (S or A) Metal Pan Panel



Type TP (S or A) Tegular Panel



Available Border Type PL, FP and TP 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

Maximum grille neck size is CM Ceiling Module – 3" (76).

SCHEDULE TYPE:	Page 3 of 3 Dimensions are in inches (mm).			
PROJECT:				
ENGINEER:	**DATE**	**B SERIES**	**SUPERSEDES**	**DRAWING NO.**
CONTRACTOR:	**9 - 1 - 20**	**5100**	**10 - 1 - 19**	**5100-4**

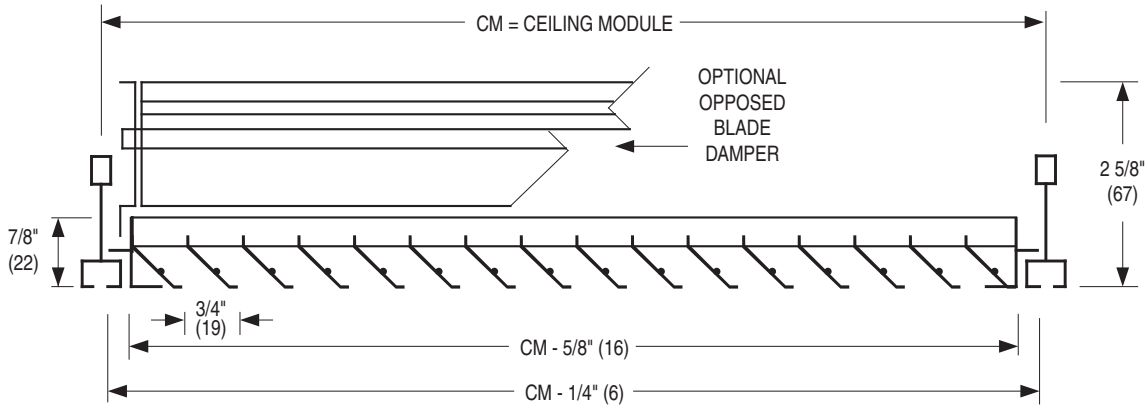
Nailor® Industries Inc.

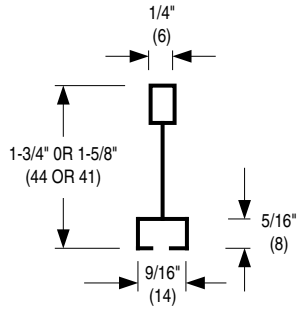
ALUMINUM RETURN GRILLES & REGISTERS

FIXED BLADES • NARROW REGRESSED T-BAR FULL FACE

MODELS: 5145F(-O)

LOUVERED RETURN AIR GRILLES AND REGISTERS FOR FINELINE® TYPE CEILING SYSTEMS





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

REGRESSED T-BAR DETAIL

Fineline® is a registered trademark of USG Interiors Inc.

❑ **MODEL 5145F** Return Air Grille 45° Deflection

❑ **MODEL 5145F-O** Return Air Register 45° Deflection (Includes O. B. Damper)

NOTES:

1. Construction: Extruded aluminum blades with corrosion-resistant steel frame.
2. Formed steel frame with mitered corners. Rigid streamlined shape solid blades on 3/4" (19) centers, fixed at 45 degrees reinforced with concealed mullion.
3. Support rail on four sides.
4. Models 5145F and 5145F-O have been specially designed for return air applications to integrate with and compliment 'Fineline®' type suspended ceiling systems.
5. Not recommended for ducted applications. Utilizes full area of ceiling module opening for maximum capacity in ductless return applications.
6. Optional roll-formed steel opposed blade damper has a screwdriver slot operator accessible through face of register.
7. Standard finish is AW Appliance White.

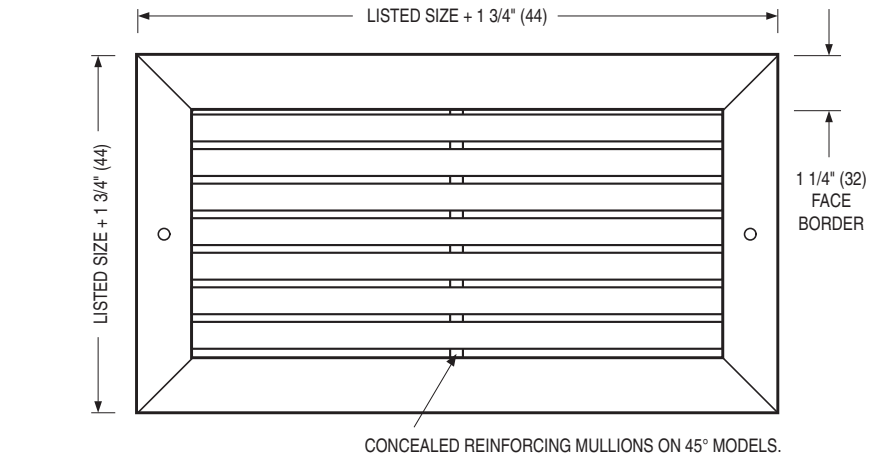
OPTIONS:

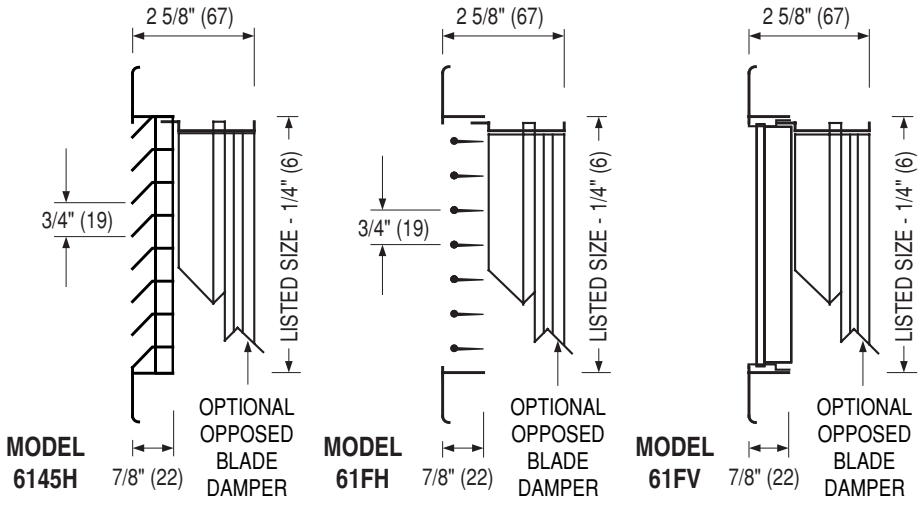
1. Finish:
   - ❑ SP Special _____ .
2. ❑ OA Aluminum opposed blade damper (model suffix).
3. ❑ Other _____ .

Dimensions are in inches (mm).

SCHEDULE TYPE:				
PROJECT:				
ENGINEER:	DATE	B SERIES	SUPERSEDES	DRAWING NO.
CONTRACTOR:	10 - 2 - 13	6100	NEW	5100-8

STEEL RETURN GRILLES & REGISTERS
FIXED BLADES • 3/4" (19) SPACING
MODELS: 6145H(-O), 6145V(-O), 61FH(-O) AND 61FV(-O)





- ❑ **Frame/Border Type S:**
  Surface Mount
- ❑ **Model 6145H**
  Single Deflection Grille
  Fixed 45° Horizontal Blades
- ❑ **Model 6145H-O**
  Single Deflection Register
  Fixed 45° Horizontal Blades
  (Includes O. B. Damper)
- ❑ **Model 6145V**
  Single Deflection Grille
  Fixed 45° Vertical Blades
- ❑ **Model 6145V-O**
  Single Deflection Register
  Fixed 45° Vertical Blades
  (Includes O. B. Damper)
- ❑ **Model 61FH**
  Single Deflection Grille
  Fixed 0° Horizontal Blades
- ❑ **Model 61FH-O**
  Single Deflection Register
  Fixed 0° Horizontal Blades
  (Includes O. B. Damper)
- ❑ **Model 61FV**
  Single Deflection Grille
  Fixed 0° Vertical Blades
- ❑ **Model 61FV-O**
  Single Deflection Register
  Fixed 0° Vertical Blades
  (Includes O. B. Damper)

DESCRIPTION:

1. Construction: Corrosion-resistant steel. Roll-formed frame mechanically interlocked with reinforced mitered corners for strength. Roll-formed blades on 3/4" (19) centers are fixed at 0 or 45 degrees to match and compliment the supply grilles and registers. 45 degree model utilizes a concealed rear reinforcing mullion (max. 16" (406) centers) and a single blade pack that provides a continuous louvered appearance. 0 degree models utilize a visible face mullion when blade length exceeds 16" (406).
2. Optional roll-formed steel opposed blade damper has a screwdriver slot operator accessible through face of register.
3. Minimum size is 4" x 4" (102 x 102).
   Maximum size is 48" x 36" (1219 x 914).
4. Type S Surface mount frame has a 1 1/4" (32) face border and a 1" (25) overlap margin.
5. Standard fastening is Type A countersunk screw holes.
6. Standard finish is AW Appliance White.

OPTIONS:

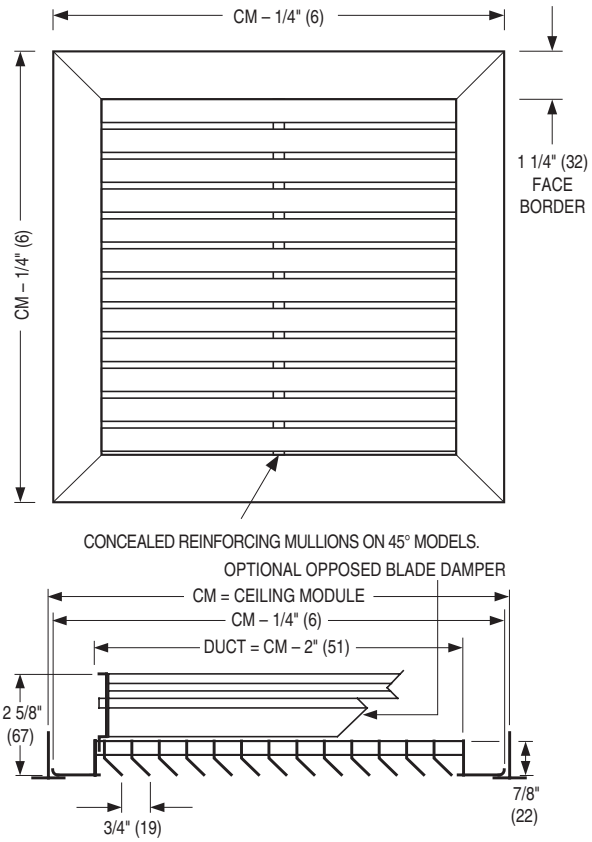
1. Finish:
   - ❑ SP Special _____ .
2. Fastening (Type S):
   - ❑ Type C Concealed mounting straps
   - ❑ Type D Concealed screw holes in neck
   - ❑ Type N None.
3. ❑ PF Plaster sub-frame
4. ❑ IS Insect screen
5. ❑ Other _____ .

SCHEDULE TYPE:	Page 1 of 3 Dimensions are in inches (mm).			
PROJECT:				
ENGINEER:	**DATE**	**B SERIES**	**SUPERSEDES**	**DRAWING NO.**
CONTRACTOR:	**10 - 1 - 19**	**6100**	**2 - 1 - 11**	**6100-3**

STEEL RETURN GRILLES & REGISTERS
FIXED BLADES • 3/4" (19) SPACING
MODELS: 6145H(-O), 6145V(-O), 61FH(-O) AND 61FV(-O)

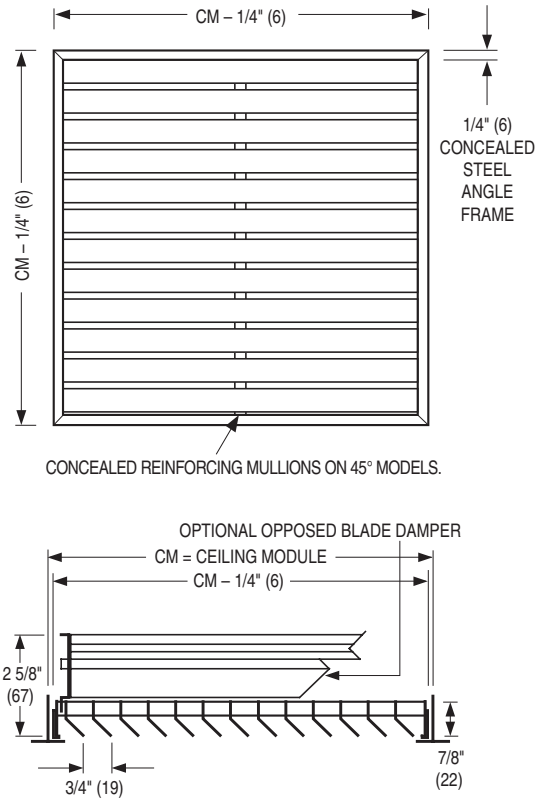
Full Face / Ceiling Modules

❑ Frame/Border Type L:
Lay-in T-Bar Mount



Model 6145H shown
Horizontal Blades (side view)

❑ Frame/Border Type A:
Concealed Angle Frame Lay-in T-Bar
(non-ducted applications)



Model 6145H shown
Horizontal Blades (side view)

DESCRIPTION:

1. Ordered by ceiling module size.
2. Type L frame use standard 1 1/4" (32) face frame/border and shows a partial reveal when installed in standard 15/16" (24) T-Bar. Duct size is 2" (51) smaller than ceiling module size.
3. Type A frame is a steel 1/4" (6) angle frame and is concealed when installed in T-Bar.

Available Border Type L and A Ceiling Module Sizes

Imperial Modules		Metric Modules
Imperial Units (in.)	Metric Units (mm)	S.I. Units (mm)
12 x 12	305 x 305	300 x 300
24 x 12	610 x 305	600 x 300
36 x 12	914 x 305	900 x 300
48 x 12	1219 x 305	1200 x 300
20 x 20	508 x 508	500 x 500
24 x 24	610 x 610	600 x 600
36 x 24	914 x 610	900 x 600
48 x 24	1219 x 610	1200 x 600

SCHEDULE TYPE:				
PROJECT:				
ENGINEER:	**DATE**	**B SERIES**	**SUPERSEDES**	**DRAWING NO.**
CONTRACTOR:	**10 - 1 - 19**	**6100**	**2 - 1 - 11**	**6100-3**

Dimensions are in inches (mm).

Nailor® Industries Inc.

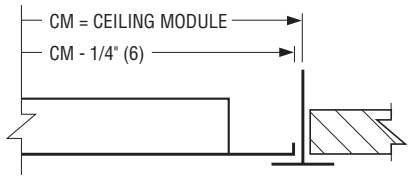
STEEL RETURN GRILLES & REGISTERS
FIXED BLADES • 3/4" (19) SPACING
MODELS: 6145H(-O), 6145V(-O), 61FH(-O) AND 61FV(-O)

Panel Mounted/Ceiling Modules

❑ Border Type PLS: Steel Lay-in Panel

The grille or register is mounted in an extended panel to suit standard T-Bar Lay-in type ceilings.

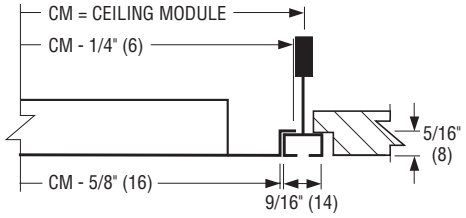
Type PLS Lay-in Panel



❑ Border Type FPS: Steel Fineline® Panel

The grille or register is mounted in an extended panel that will fit a 9/16" (14) narrow regressed (bolt slot) T-Bar ceiling grid or 9/16" (14) Flat T-Bar with tegular ceiling tile.

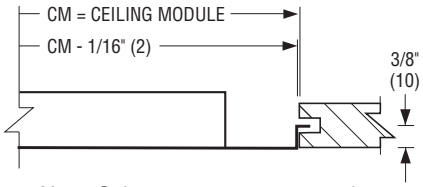
Type FPS Fineline® Panel



❑ Border Type SPS: Steel Spline Panel

The grille or register is mounted in an extended panel to suit spline type ceiling modules. CM 24" x 24" (600 x 600) only.

Type SPS Spline Panel

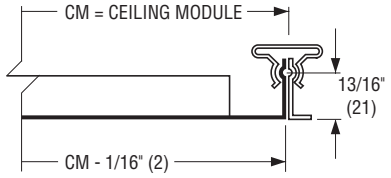


Note: Splines on two opposite sides.

❑ Border Type MPS: Steel Metal Pan Panel

The grille or register is mounted in an extended panel to suit metal pan ceilings that have snap-in type ceiling modules. CM 24" x 24" (600 x 600) only.

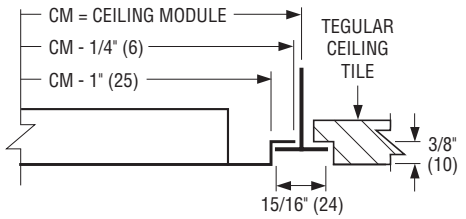
Type MPS Metal Pan Panel



❑ Border Type TPS: Steel Tegular Panel

The grille or register is mounted in a panel that will extend below a 15/16" (24) Flat T-Bar ceiling grid.

Type TPS Tegular Panel



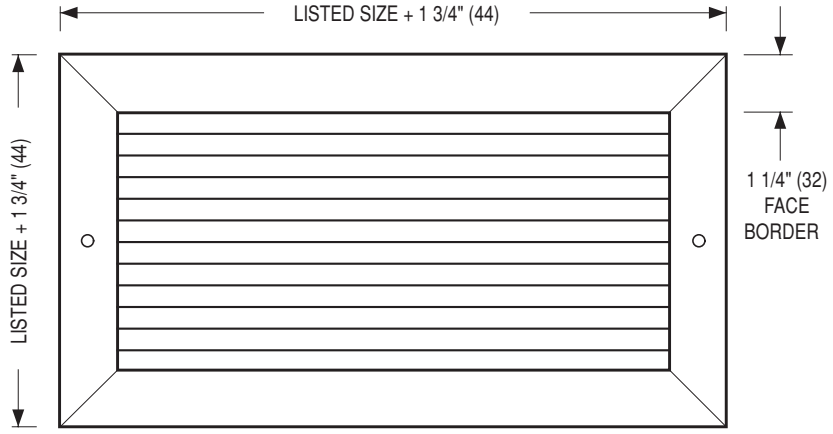
Available Border Type PLS, FPS and TPS Ceiling Module Sizes

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

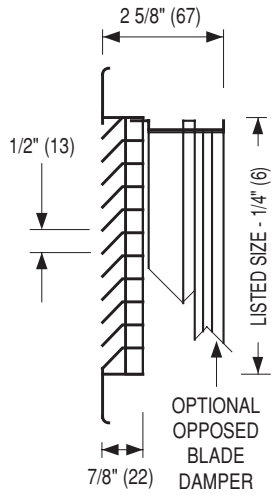
Maximum grille neck size is CM Ceiling Module – 3" (76).

SCHEDULE TYPE:	Page 3 of 3 Dimensions are in inches (mm).			
PROJECT:				
ENGINEER:	**DATE**	**B SERIES**	**SUPERSEDES**	**DRAWING NO.**
CONTRACTOR:	**10 - 1 - 19**	**6100**	**2 - 1 - 11**	**6100-3**

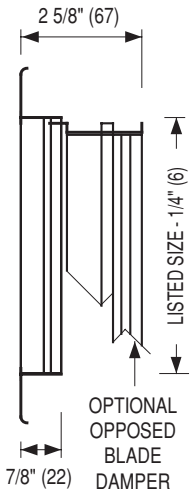
STEEL RETURN GRILLES & REGISTERS
FIXED BLADES • 1/2" (13) CENTERS
MODELS: 6155H(-O) AND 6155V(-O)



Model 6155H



MODEL 6155H
Horizontal Blades



MODEL 6155V
Vertical Blades

❑ **Frame/Border Type S:**
Surface Mount

❑ **Model 6155H**
Single Deflection Grille
Fixed 45° Horizontal Blades

❑ **Model 6155H-O**
Single Deflection Register
Fixed 45° Horizontal Blades
(Includes O. B. Damper)

❑ **Model 6155V**
Single Deflection Grille
Fixed 45° Vertical Blades

❑ **Model 6155V-O**
Single Deflection Register
Fixed 45° Vertical Blades
(Includes O. B. Damper)

DESCRIPTION:

1. Construction: Corrosion resistant steel. Roll-formed frame mechanically interlocked with reinforced mitered corners for strength. Streamlined shaped blades on 1/2" (13) centers are fixed at 45 degrees. Concealed reinforcing mullions on maximum 16" (406) centers. No see through when viewed from straight ahead.
2. Optional roll-formed steel opposed blade damper has a concealed lever operator.
3. Minimum size is 4" x 4" (102 x 102). Maximum size is 48" x 36" (1219 x 914).
4. Type S surface mount frame has a 1 1/4" (32) face border and a 1" (25) overlap margin.
5. Standard fastening is Type A countersunk screw holes.
6. Standard finish is AW Appliance White.

OPTIONS:

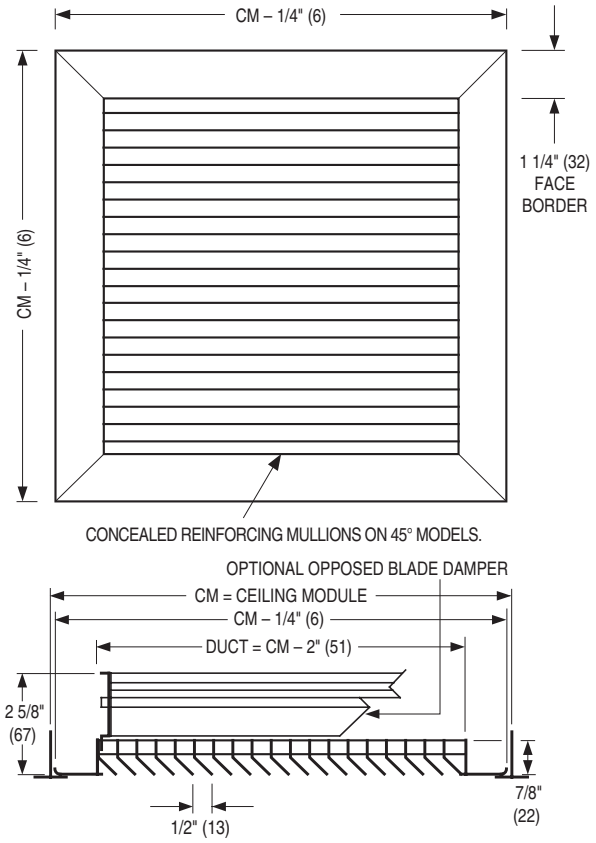
1. Finish:
   ❑ SP Special _____ .
2. Fastening (Type S):
   ❑ Type N None.
3. ❑ PF Plaster sub-frame
4. ❑ IS Insect screen
5. ❑ Other _____ .

SCHEDULE TYPE:	Page 1 of 3 Dimensions are in inches (mm).			
PROJECT:				
ENGINEER:	**DATE**	**B SERIES**	**SUPERSEDES**	**DRAWING NO.**
CONTRACTOR:	**10 - 1 - 19**	**6100**	**2-7-11/6100-8**	**6100-4**

STEEL RETURN GRILLES & REGISTERS
FIXED BLADES • 1/2" (13) CENTERS
MODELS: 6155H(-O) AND 6155V(-O)

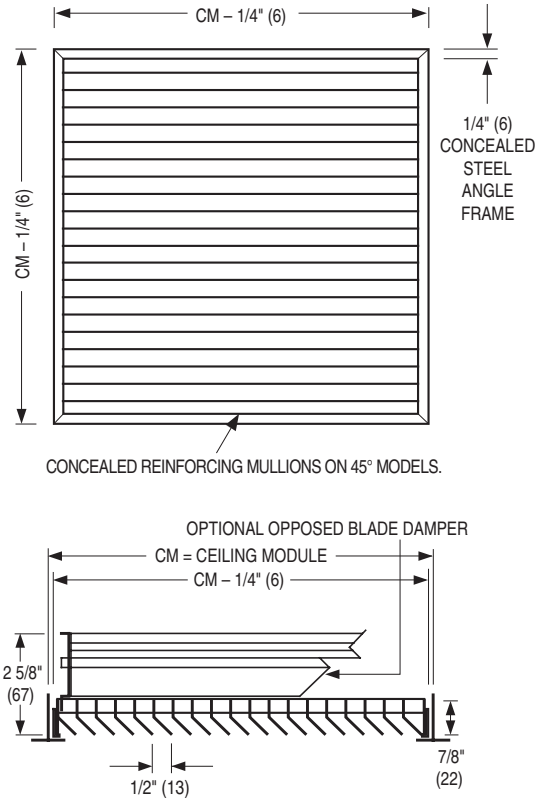
Full Face / Ceiling Modules

❑ Frame/Border Type L:
Lay-in T-Bar Mount



Model 6155H shown
Horizontal Blades (side view)

❑ Frame/Border Type A:
Concealed Angle Frame Lay-in T-Bar
(non-ducted applications)



Model 6155H shown
Horizontal Blades (side view)

DESCRIPTION:

1. Ordered by ceiling module size.
2. Type L frame use standard 1 1/4" (32) face frame/border and shows a partial reveal when installed in standard 15/16" (24) T-Bar. Duct size is 2" (51) smaller than ceiling module size.
3. Type A frame is a steel 1/4" (6) angle frame and is concealed when installed in T-Bar.

Available Border Type L and A Ceiling Module Sizes

Imperial Modules		Metric Modules
Imperial Units (in.)	Metric Units (mm)	S.I. Units (mm)
12 x 12	305 x 305	300 x 300
24 x 12	610 x 305	600 x 300
36 x 12	914 x 305	900 x 300
48 x 12	1219 x 305	1200 x 300
20 x 20	508 x 508	500 x 500
24 x 24	610 x 610	600 x 600
36 x 24	914 x 610	900 x 600
48 x 24	1219 x 610	1200 x 600

Dimensions are in inches (mm).

SCHEDULE TYPE:				
PROJECT:				
ENGINEER:	DATE	B SERIES	SUPERSEDES	DRAWING NO.
CONTRACTOR:	10 - 1 - 19	6100	2-7-11/6100-8	6100-4

Nailor® Industries Inc.

STEEL RETURN GRILLES & REGISTERS
FIXED BLADES • 1/2" (13) CENTERS
MODELS: 6155H(-O) AND 6155V(-O)

Panel Mounted/Ceiling Modules

❑ Border Type PLS: Steel Lay-in Panel

The grille or register is mounted in an extended panel to suit standard T-Bar Lay-in type ceilings.

❑ Border Type FPS: Steel Fineline® Panel

The grille or register is mounted in an extended panel that will fit a 9/16" (14) narrow regressed (bolt slot) T-Bar ceiling grid or 9/16" (14) Flat T-Bar with tegular ceiling tile.

❑ Border Type SPS: Steel Spline Panel

The grille or register is mounted in an extended panel to suit spline type ceiling modules. CM 24" x 24" (600 x 600) only.

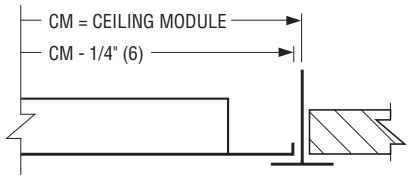
❑ Border Type MPS: Steel Metal Pan Panel

The grille or register is mounted in an extended panel to suit metal pan ceilings that have snap-in type ceiling modules. CM 24" x 24" (600 x 600) only.

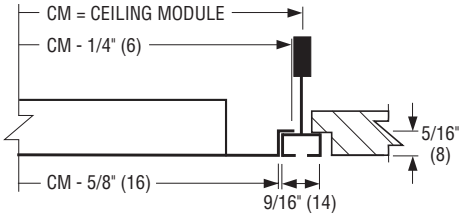
❑ Border Type TPS: Steel Tegular Panel

The grille or register is mounted in a panel that will extend below a 15/16" (24) Flat T-Bar ceiling grid.

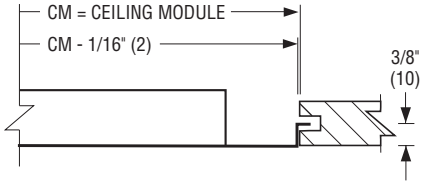
Type PLS Lay-in Panel



Type FPS Fineline® Panel

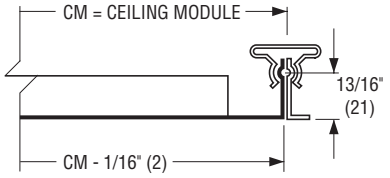


Type SPS Spline Panel

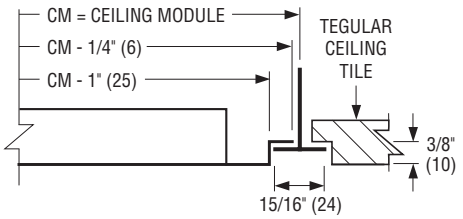


Note: Splines on two opposite sides.

Type MPS Metal Pan Panel



Type TPS Tegular Panel



Available Border Type PLS, FPS and TPS 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

Maximum grille neck size is CM Ceiling Module – 3" (76).

SCHEDULE TYPE:	Page 3 of 3 Dimensions are in inches (mm).			
PROJECT:				
ENGINEER:	**DATE**	**B SERIES**	**SUPERSEDES**	**DRAWING NO.**
CONTRACTOR:	**10 - 1 - 19**	**6100**	**2-7-11/6100-8**	**6100-4**

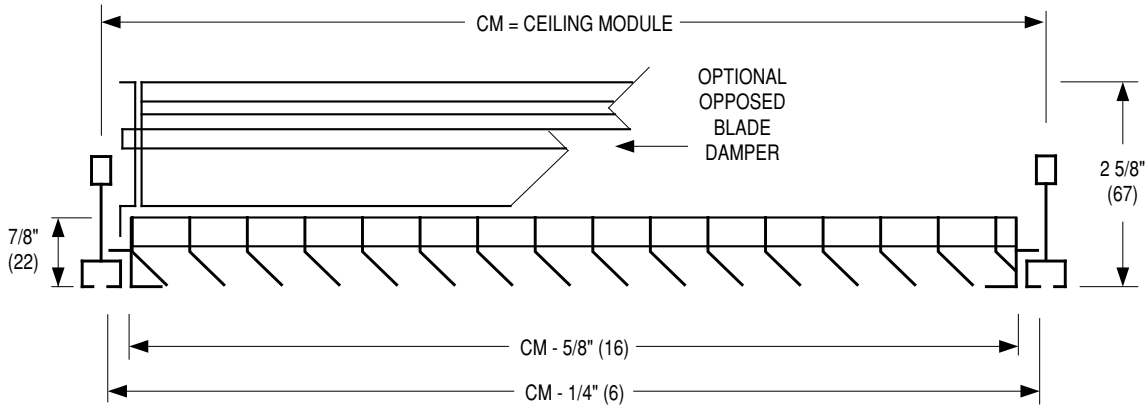
Nailor® Industries Inc.

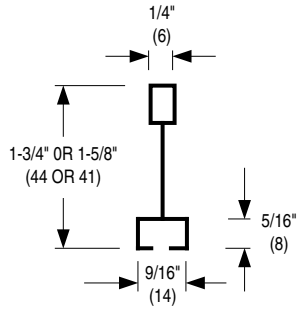
STEEL RETURN GRILLES & REGISTERS

FIXED BLADES • NARROW REGRESSED T-BAR FULL FACE

MODELS: 6145F(-O)

LOUVERED RETURN AIR GRILLES AND REGISTERS FOR FINELINE® TYPE CEILING SYSTEMS





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

REGRESSED T-BAR DETAIL

Fineline® is a registered trademark of USG Interiors Inc.

❑ **MODEL 6145F** Return Air Grille 45° Deflection

❑ **MODEL 6145F-O** Return Air Register 45° Deflection (Includes O. B. Damper)

NOTES:

1. Construction: Corrosion-resistant steel.
2. Formed steel frame with mitered corners. Roll-formed blades on 3/4" (19) centers, reinforced with concealed mullions on 16" (406) maximum centers.
3. Support rail on four sides.
4. Models 6145F and 6145F-O have been specially designed for return air applications to integrate with and compliment 'Fineline®' type suspended ceiling systems.
5. Not recommended for ducted applications. Utilizes full area of ceiling module opening for maximum capacity in ductless return applications.
6. Optional roll-formed steel opposed blade damper has a screwdriver slot or lever operator accessible through face of register.
7. Standard finish is AW Appliance White.

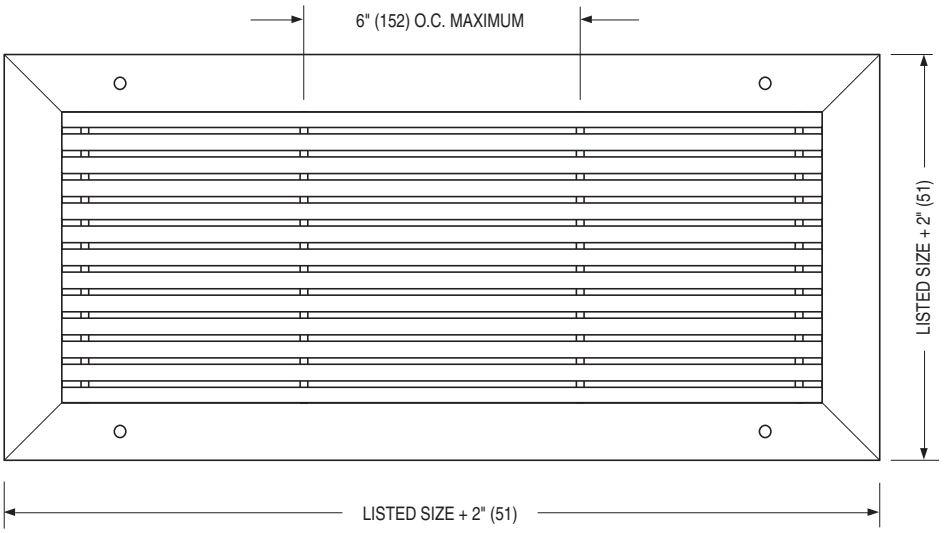
OPTIONS:

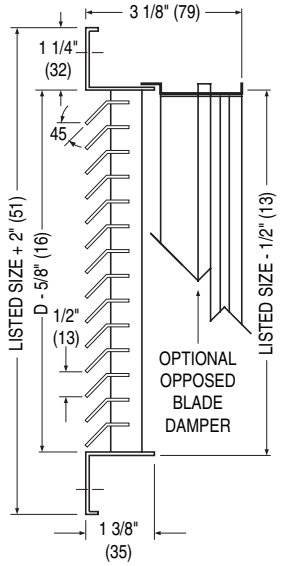
1. Finish:
   - ❑ SP Special _____ .
2. ❑ Other _____ .

SCHEDULE TYPE:	Dimensions are in inches (mm).			
PROJECT:				
ENGINEER:	**DATE**	**B SERIES**	**SUPERSEDES**	**DRAWING NO.**
CONTRACTOR:	**10 - 3 - 13**	**6100**	**2 - 7 - 11**	**6100-7**

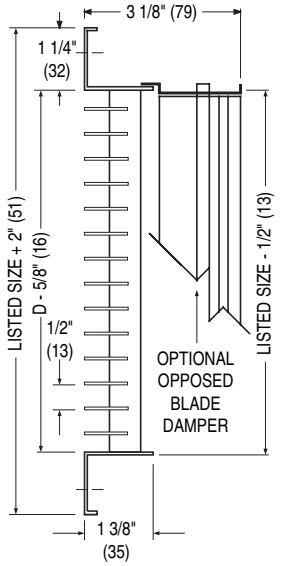
STEEL HEAVY DUTY RETURN GRILLES
GYMNASIUM • LOUVERED
MODELS: 6145H-HD(-O), 6145V-HD(-O), 61FH-HD(-O) AND 61FV-HD(-O)

Nailor® Industries Inc.





Model 6145H-HD Horizontal Blades



Model 61FH-HD Horizontal Blades

❑ **MODEL 6145H-HD**
45° Horizontal Blades

❑ **MODEL 6145H-HD-O**
45° Horizontal Blades
(Includes O. B. Damper)

❑ **MODEL 6145V-HD**
45° Vertical Blades

❑ **MODEL 6145V-HD-O**
45° Vertical Blades
(Includes O. B. Damper)

❑ **MODEL 61FH-HD**
0° Horizontal Blades

❑ **MODEL 61FH-HD-O**
0° Horizontal Blades
(Includes O. B. Damper)

❑ **MODEL 61FV-HD**
0° Vertical Blades

❑ **MODEL 61FV-HD-O**
0° Vertical Blades
(Includes O. B. Damper)

DESCRIPTION:

1. Material: Corrosion-resistant coated steel.
2. Construction: Fixed blade angles in 45° or 0° deflection are 14 gauge material individually welded in position with support mullions on maximum 6" (152) centers. Frame is heavy duty 16 gauge material with welded and reinforced mitered corners.
3. The 6100-HD Series return air grilles are constructed to offer the strength and rigidity required in order to withstand abuse in applications such as gymnasiums, schools, parking lots and other locations requiring strong impact resistance.
4. Optional opposed blade damper has a pivot lever or screwdriver slot operator accessible through the face of the register.
5. Available in duct sizes 6" x 4" (152 x 102) through 48" x 48" (1219 x 1219) maximum in one piece construction. Available in multiple sections with mullions - see submittal OG-6100HD.
6. Fastening: Countersunk screwholes with oval head screws.
7. Standard Finish is AW Appliance White.

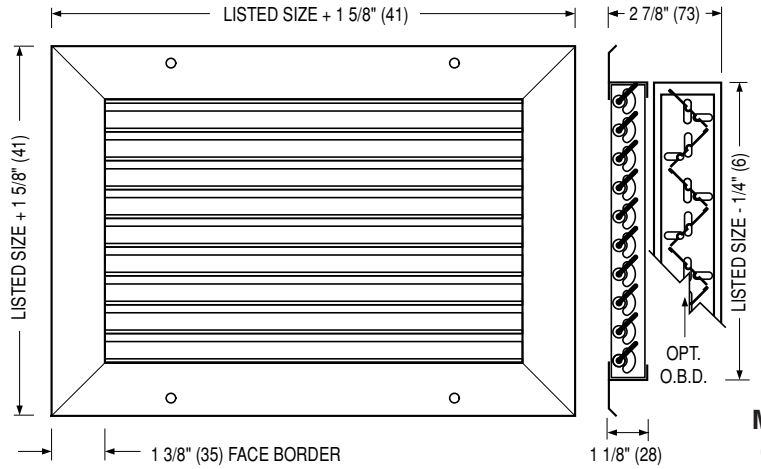
OPTIONS:

1. Finish:
   ❑ SP Special _____ .
2. Other: _____ .

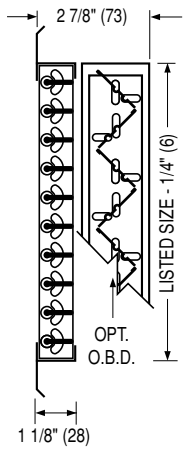
SCHEDULE TYPE:	Dimensions are in inches (mm).			
PROJECT:				
ENGINEER:	**DATE**	**B SERIES**	**SUPERSEDES**	**DRAWING NO.**
CONTRACTOR:	**9 - 1 - 20**	**6100**	**2 - 1 - 11**	**6100HD-3**

STAINLESS STEEL RETURN GRILLES & REGISTERS • FIXED BLADES
MODELS: 6745H(-O), 6745V(-O), 67FH(-O) AND 67FV(-O) TYPE S

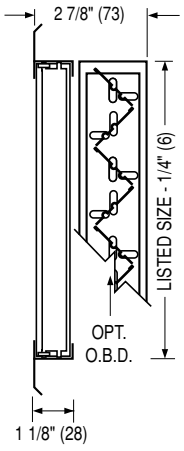
Nailor® Industries Inc.



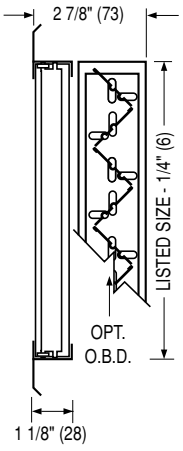
MODEL 6745H



MODEL 67FH



MODEL 67FV



MODEL 6745V

❑ **MODEL 6745H**
Single Deflection Grille
Fixed 45° Horizontal Blades

❑ **MODEL 6745H-O**
Single Deflection Register
Fixed 45° Horizontal Blades
(Includes O. B. Damper)

❑ **MODEL 6745V**
Single Deflection Grille
Fixed 45° Vertical Blades

❑ **MODEL 6745V-O**
Single Deflection Register
Fixed 45° Vertical Blades
(Includes O. B. Damper)

❑ **MODEL 67FH**
Single Deflection Grille
Fixed 0° Horizontal Blades

❑ **MODEL 67FH-O**
Single Deflection Register
Fixed 0° Horizontal Blades
(Includes O. B. Damper)

❑ **MODEL 67FV**
Single Deflection Grille
Fixed 0° Vertical Blades

❑ **MODEL 67FV-O**
Single Deflection Register
Fixed 0° Vertical Blades
(Includes O. B. Damper)

DESCRIPTION:

1. Construction: Type 304 stainless steel welded and reinforced frame features hairline mitered corners. Streamlined shaped grille blades on 3/4" (19) centers are fixed at 0 or 45 degrees to match and compliment the supply grilles and registers.
2. Optional roll-formed Type 304 stainless steel opposed blade damper has a screw driver operator accessible through face of register.
3. Minimum size is 4" x 4" (102 x 102).
   Maximum size is 60" x 48" (1524 x 1219).
4. Type S Surface mount standard frame has a 1 3/8" (35) face border.
5. Standard fastening is Type A countersunk screw holes.
6. Standard finish is #4 Brushed Satin Polished.

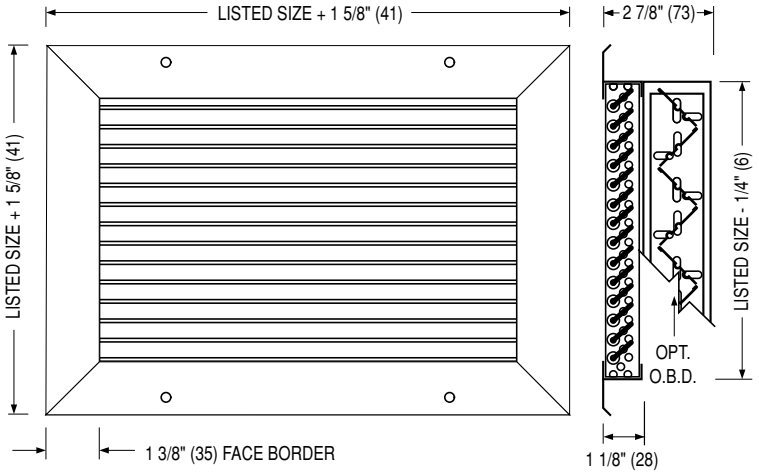
OPTIONS:

1. Construction:
   - ❑ 316 — Type 316 stainless steel.
2. Finish:
   - ❑ AW — Appliance White.
   - ❑ SP — Special _____ .
3. ❑ PFS — Stainless Steel Plaster frame
4. ❑ Other — _____ .

SCHEDULE TYPE:	Dimensions are in inches (mm).			
PROJECT:				
ENGINEER:	**DATE**	**B SERIES**	**SUPERSEDES**	**DRAWING NO.**
CONTRACTOR:	**5 - 11 - 15**	**6700**	**9 - 22 - 11**	**6700-3**

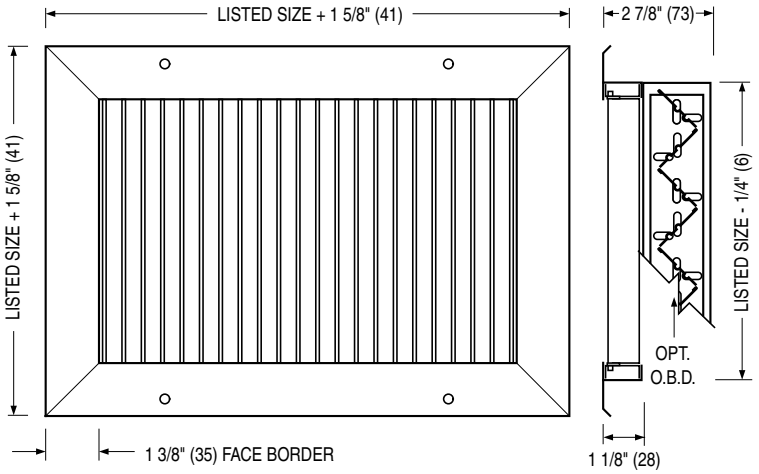
Nailor® Industries Inc.

STAINLESS STEEL RETURN GRILLES & REGISTERS • FIXED BLADE
MODELS: 6755H(-O) AND 6755V(-O) TYPE S



❑ **MODEL 6755H**
Single Deflection Grille
Fixed 45° Horizontal Blades

❑ **MODEL 6755H-O**
Single Deflection Register
Fixed 45° Horizontal Blades
(Includes O. B. Damper)



❑ **MODEL 6755V**
Single Deflection Grille
Fixed 45° Vertical Blades

❑ **6755V-O**
Single Deflection Register
Fixed 45° Vertical Blades
(Includes O. B. Damper)

DESCRIPTION:

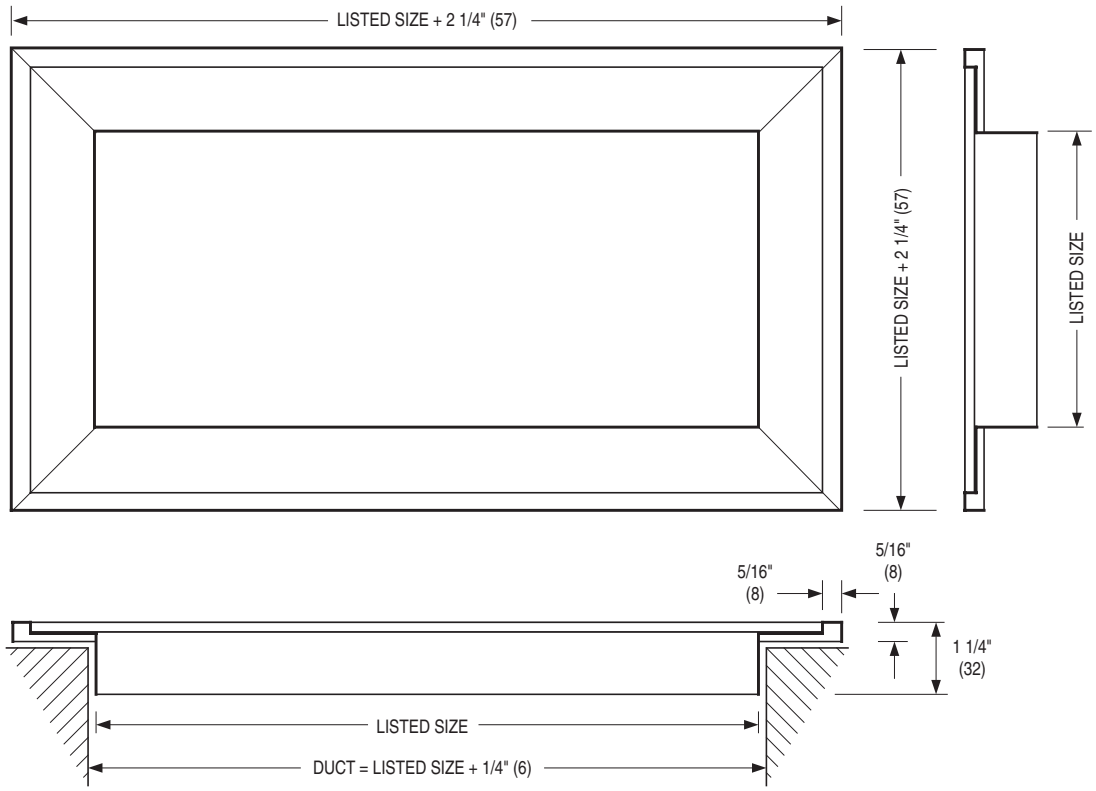
1. Construction: Type 304 stainless steel welded and reinforced frame features hairline mitered corners. Streamlined shaped grille blades on 1/2" (13) centers are fixed at 45 degrees to match and compliment the supply grilles and registers.
2. Optional roll-formed Type 304 stainless steel opposed blade damper has a screw driver operator accessible through face of register.
3. Minimum size is 4" x 4" (102 x 102).
   Maximum size is 60" x 48" (1524 x 1219).
4. Type S Surface mount standard frame has a 1 3/8" (35) face border.
5. Standard fastening is Type A countersunk screw holes.
6. Standard finish is #4 Brushed Satin Polished.

OPTIONS:

1. Construction:
   ❑ 316 Type 316 stainless steel.
2. Finish:
   ❑ AW Appliance White.
   ❑ SP Special _____ .
3. ❑ PFS Stainless Steel Plaster frame
4. ❑ Other _____ .

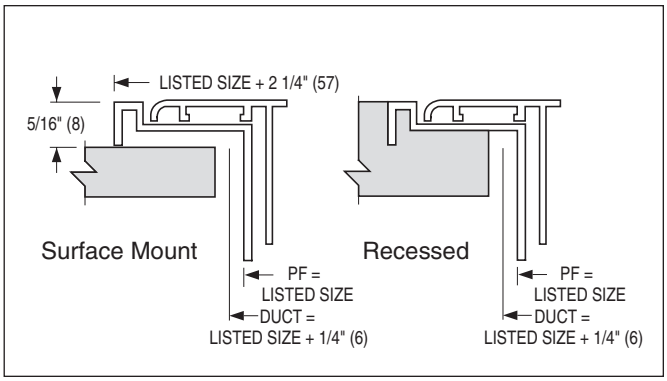
SCHEDULE TYPE:	Dimensions are in inches (mm).			
PROJECT:				
ENGINEER:	**DATE**	**B SERIES**	**SUPERSEDES**	**DRAWING NO.**
CONTRACTOR:	**5 - 11 - 15**	**6700**	**9 - 22 - 11**	**6700-4**

GRILLES AND REGISTERS ACCESSORY
PLASTER/MOUNTING FRAME
(FOR USE WITH MODEL SERIES 5100, 6100, AND 7100)
MODEL: PF



DESCRIPTION:

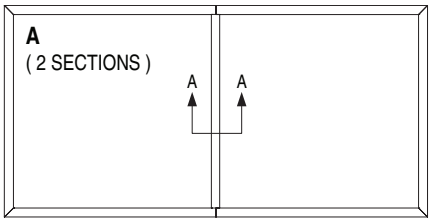
1. Construction: Extruded aluminum frame with staked and mitered mitered corners for strength.
2. Model PF Plaster frame provides a convenient and professional method for finishing off a grille or register opening. It provides a stable anchor for attachment, while enabling the grille or register to be readily removed and replaced without disturbing the finished surface of the wall or ceiling.
3. Frames can be installed before plastering and installed in a recessed fashion or surface mounted afterwards on plaster or other material.
4. Duct openings should be 1/4" (6) larger than nominal listed size to accommodate frame.
5. Finish: Baked enamel finish to match grille or register.



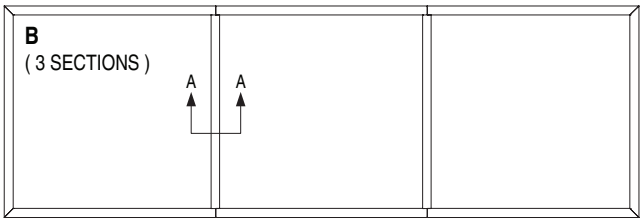
SCHEDULE TYPE:	Dimensions are in inches (mm).			
PROJECT:				
ENGINEER:	**DATE**	**B SERIES**	**SUPERSEDES**	**DRAWING NO.**
CONTRACTOR:	**10 - 24 - 01**	**ACC-GR**	**5100-11**	**ACC-PF**

Nailor® Industries Inc.

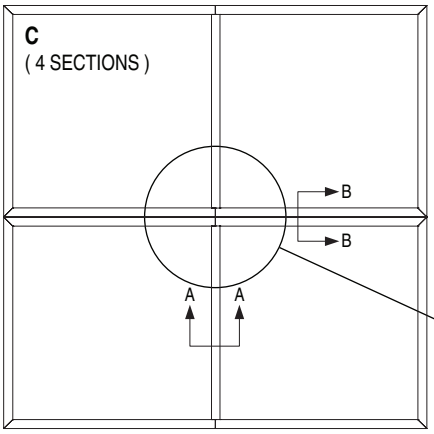
OVERSIZED GRILLE CONSTRUCTION
ALUMINUM SUPPLY AND RETURN GRILLES
FOR DUCTS OR OPENINGS LARGER THAN 48" (1219)
MODEL SERIES: 5100 AND 7100



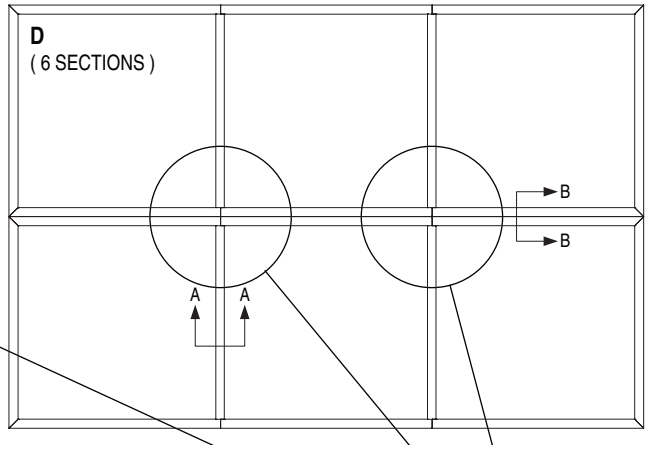
OVER 48" (1219) IN WIDTH UP TO 96" x 48" (2438 x 1219)



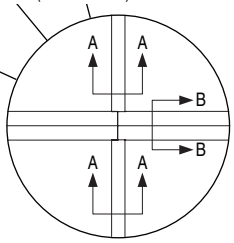
OVER 96" (2438) IN WIDTH UP TO 144" x 48" (3658 x 1219)

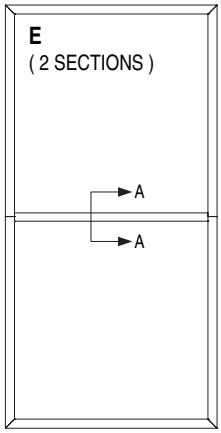


OVER 48" (1219) IN WIDTH AND HEIGHT UP TO 96" x 96" (2438 x 2438)

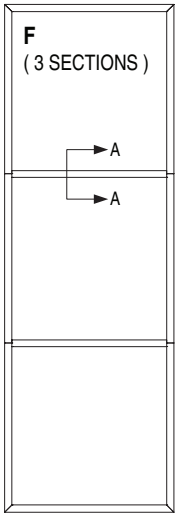


OVER 96" x 48" (2438 x 1219) UP TO 144" x 96" (3658 x 2438)

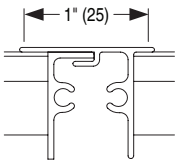




UP TO 48" (1219) IN WIDTH AND
UP TO 96" (2438) IN HEIGHT

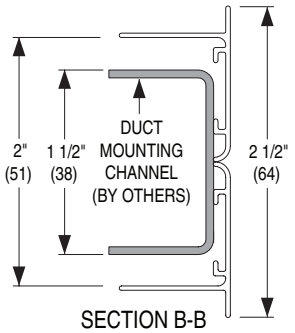


UP TO 48" (1219) IN WIDTH AND
UP TO 144" (3658) IN HEIGHT



SECTION A-A

FACE MULLION WITH
ALIGNMENT TAB
OVERLAP DETAIL



SECTION B-B

DOUBLE FRAME / BORDER DETAIL

NOTES:

1. Maximum single section size is 48" x 48" (1219 x 1219).
2. Detail A-A frame joints are sheared and butted together. Alignment tabs interlock and keep the face surfaces parallel.
3. Detail B-B shows two separate grille frames butted together.
4. Mounting countersunk screw holes are located per the standard screw hole chart on grille frames, but not on face mullion.
5. Sections ship loose for field installation.
6. Additional structural support (Duct mounting support channels by others) is required for diagrams C and D.
7. This detail applies to Type S Surface Mount Frame/Border only.

SCHEDULE TYPE:	Dimensions are in inches (mm)			
PROJECT:				
ENGINEER:	**DATE**	**B SERIES**	**SUPERSEDES**	**DRAWING NO.**
CONTRACTOR:	**4 - 27 - 20**	**GR**	**NEW**	**OG-1-A**

Nailor Industries Inc.

Standard and Optional Finishes For Grilles and Diffusers

Nailor offers a selection of standard colors and finishes available on our grilles, registers and diffusers. For painted finishes, our state-of-the-art paint systems provide environmentally friendly finishing solutions with uniform coverage and coating thickness. The result is an exceptionally durable finish that resists scratching, corrosion and general wear. Additional facilities for special requirements, as well as a selection of anodized or brushed finishes, complete our ability to provide unmatched beauty and durability for any application.

NAILOR POWDER COAT PROPERTIES

FILM THICKNESS	2.0 to 3.0 mils
HARDNESS	2 H
IMPACT RESISTANCE	Direct: 160 inch - lbs. Reverse 160 inch - lbs.
SALT SPRAY	1000 hours

ELECTROCOATING PROPERTIES

FILM THICKNESS	.8 to 1.2 mils
HARDNESS	HB TO H
IMPACT RESISTANCE	80 inch - lbs
SALT SPRAY	100 hours

POWDER COAT

Nailor's powder coat is a high-tech thermosetting polyester powder coating with superior physical properties that provide excellent color and gloss retention. The finish offers extreme durability and hardness that resists scratching, chipping and general wear. Surface preparation includes degreasing and a chemical cleaning followed by a clean rinse before a final powder coat finish is applied and baked. The environmentally friendly Nailor powder coat system assures uniform coverage and color consistency resulting in a long lasting superior finish. Colors, including simulated anodizing, which is far more economical than color anodizing, can be selected from Nailor's standard color chart or non-standard colors and can be matched from sample chips provided to Nailor.

ELECTROCOATING

E-Coat is an environmentally friendly coating that provides complete coverage and a wide range of performance properties, formulated to meet corrosion, durability and other performance specifications. Electrocoating is a highly automated process in which paint is electrically deposited onto a metal foundation. Film build thickness is uniform and overall application efficiencies are in excess of 90%. Paint is consistent on all part-to-part surfaces, preventing sags, runs or drips. E-Coat offers flexibility, better first yield pass and quicker production times compared to other forms of paint applications. Electrocoating is an excellent solution that offers superior properties and uniform finish.

CLEAR ANODIZING (Aluminum products only)

Clear anodizing is a clear oxide coating that exemplifies an aluminum surface's natural oxide coating producing a hard, scratch resistant surface that is resistant to general wear and mild chemicals. The process provides a natural looking, virtually maintenance free finish that will endure for many years.

COLOR ANODIZING (Aluminum products only)

Color anodizing is an electrolytic process where, after standard anodizing procedures, colored metallic pigments penetrate the oxide surface pores producing a corrosion resistant, colorfast finish. The process results in a natural metallic appearance that requires little maintenance.

BRUSHED AND CLEAR COAT

Available on specific aluminum products (consult applicable product page for availability). Surface is brushed to achieve a scratch finish texture before being degreased and chemically cleaned. A clear lacquer coating is then applied to provide a durable protective finish.

#4 BRUSHED SATIN POLISHED (Stainless Steel products only)

Surface is polished to ASTM A480 #4 standard to achieve a bright durable finish that is resistant to mild chemicals and corrosion. A final coating is not required due to the inherent anti-corrosion properties of the stainless steel.

PRIME COAT

Prime coat provides a stable base for painting in the field. Surface pretreatment includes degreasing and a chemical cleaning before an alkyd prime coat is applied. After a thorough cleaning for dust, etc. that can contaminate the final finish and cause premature flaking or peeling, finish coat should be field applied as soon as possible.

PAINT PREPARED ALUMINUM (Aluminum products only)

Allows for field applied paint. Surface preparation includes degreasing and a chemical cleaning followed by a clean rinse. Finish coat should be field applied as soon as possible.

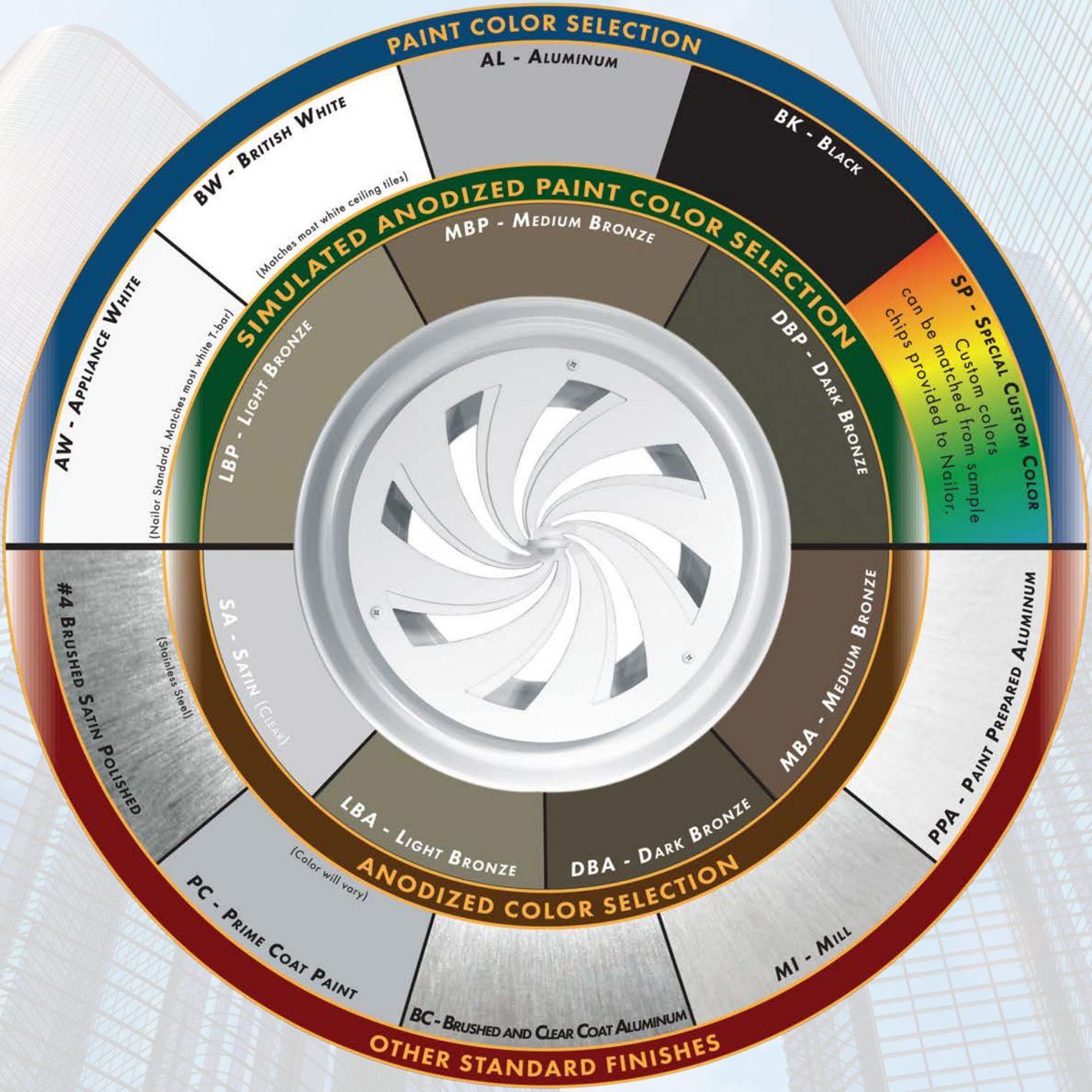
MILL FINISH

Surface is left untreated and requires cleaning, degreasing, etc. in the field before final finish can be applied if required.

Nailor® Industries Inc.

Standard and Optional Finishes For Grilles and Diffusers

The following standard colors and finishes are available on applicable Nailor air distribution products. Consult individual product pages for availability



The pictured finishes have been represented as best as possible within printing limitations. However, actual finish may vary. Contact your Nailor representative for a color chip sample on the material specified for a more accurate representation.

DBK - Black (for registers ordered with factory mounted dampers) - ***BA*** - Perforated Diffusers (4300 series only) Appliance White (AW) face with black back pan and pattern controllers.

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.

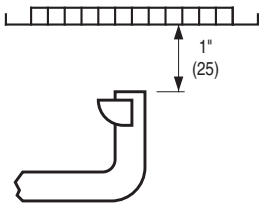
Negative Static Pressure Listed Value x 0.91.

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 – Metric

Fixed Blade Return Grilles and Registers • 5100, 6100 and 6700 Series
Models: 5145H, 6145H, 6745H, 5145V, 6145V, 6745V, 51FB45, 61FB45, 67FB45

Listed Duct Size (mm)	Alternate Size (mm)	Core Area (m^2)	Ak Factor	Core Velocity, M/S	30	61	91	122	152	183	213	244	274	305
				VP	0.2	0.5	1.5	2.5	4.0	5.5	7.7	9.9	12.4	15.4
				Negative SP	0.7	3.5	7.7	13.7	21.4	30.8	41.8	54.7	69.1	85.5
152 x 152	203 x 102 254 x 102	0.02	0.23	**L/S** NC	**9** —	**19** —	**28** —	**38** —	**47** —	**57** 19	**66** 24	**76** 28	**85** 32	**94** 36
203 x 152	254 x 127 305 x 102	0.03	0.30	**L/S** NC	**13** —	**26** —	**40** —	**53** —	**66** 15	**79** 20	**92** 25	**106** 29	**119** 33	**132** 37
254 x 152	305 x 127 406 x 102	0.03	0.37	**L/S** NC	**17** —	**33** —	**50** —	**66** —	**83** 16	**99** 21	**116** 26	**132** 30	**149** 34	**165** 38
203 x 203	356 x 127	0.04	0.4	**L/S** NC	**18** —	**36** —	**54** —	**72** —	**90** 17	**108** 22	**126** 27	**143** 31	**161** 35	**179** 39
305 x 152	457 x 102	0.04	0.45	**L/S** NC	**20** —	**40** —	**59** —	**79** —	**99** 18	**119** 23	**139** 27	**159** 32	**178** 36	**198** 40
305 x 203	406 x 152 610 x 102	0.05	0.59	**L/S** NC	**27** —	**55** —	**82** —	**109** —	**137** 19	**164** 24	**192** 29	**219** 34	**246** 37	**274** 41
254 x 254	356 x 178 660 x 102	0.06	0.62	**L/S** NC	**29** —	**58** —	**86** —	**115** —	**144** 19	**173** 24	**202** 29	**230** 34	**259** 37	**288** 41
457 x 152	356 x 203 762 x 102 711 x 102	0.06	0.67	**L/S** NC	**31** —	**61** —	**92** —	**123** 15	**153** 20	**184** 25	**215** 30	**245** 34	**276** 38	**307** 41
305 x 254	406 x 203 508 x 152 610 x 127	0.07	0.74	**L/S** NC	**35** —	**70** —	**105** —	**140** 15	**175** 20	**210** 25	**244** 30	**279** 35	**314** 39	**349** 42
305 x 305	356 x 254 610 x 152 457 x 203 965 x 102	0.08	0.89	**L/S** NC	**42** —	**85** —	**127** —	**170** 16	**212** 21	**255** 26	**297** 31	**340** 36	**382** 39	**425** 42
356 x 356	406 x 305 610 x 203 508 x 254 864 x 152	0.12	1.22	**L/S** NC	**59** —	**117** —	**176** —	**234** 16	**293** 21	**351** 26	**410** 31	**468** 36	**527** 40	**585** 43
457 x 305	406 x 356 711 x 203 559 x 254 965 x 152	0.13	1.34	**L/S** NC	**65** —	**129** —	**194** —	**259** 17	**323** 22	**388** 27	**453** 32	**517** 37	**582** 40	**647** 43
610 x 254	508 x 305 762 x 203	0.14	1.49	**L/S** NC	**72** —	**143** —	**215** —	**287** 17	**359** 22	**430** 27	**502** 32	**574** 38	**646** 41	**717** 44
406 x 406	457 x 356 762 x 203 559 x 305	0.15	1.58	**L/S** NC	**77** —	**155** —	**232** —	**310** 18	**387** 23	**464** 28	**542** 33	**619** 38	**697** 41	**774** 44
610 x 305	457 x 406 762 x 254 508 x 356 813 x 203	0.17	1.78	**L/S** NC	**87** —	**175** —	**262** —	**349** 18	**437** 23	**524** 28	**611** 33	**698** 38	**786** 41	**873** 45
457 x 457	508 x 406 711 x 305 610 x 356 813 x 254	0.20	2.01	**L/S** NC	**99** —	**198** —	**297** —	**396** 18	**495** 23	**595** 28	**694** 33	**793** 38	**892** 41	**991** 45
762 x 305	508 x 457 660 x 356 559 x 406 914 x 254	0.22	2.23	**L/S** NC	**109** —	**219** —	**328** —	**438** 19	**547** 24	**657** 29	**766** 34	**876** 39	**985** 42	**1095** 46
508 x 508	610 x 457 762 x 356 660 x 406 914 x 305	0.24	2.48	**L/S** NC	**123** —	**246** —	**369** —	**493** 19	**616** 24	**739** 30	**862** 35	**985** 40	**1108** 43	**1232** 46
559 x 559	610 x 508 762 x 406 660 x 457 914 x 356	0.29	3.00	**L/S** NC	**150** —	**299** —	**449** —	**598** 20	**748** 25	**898** 31	**1047** 35	**1197** 40	**1346** 43	**1496** 47
762 x 457	610 x 559 1016 x 356 864 x 406	0.33	3.34	**L/S** NC	**167** —	**334** —	**501** —	**668** 20	**835** 25	**1002** 31	**1169** 36	**1336** 41	**1503** 44	**1671** 48
610 x 610	660 x 559 813 x 458 711 x 508 914 x 406	0.35	3.56	**L/S** NC	**179** —	**358** —	**537** —	**715** 20	**894** 25	**1073** 31	**1252** 36	**1431** 41	**1610** 44	**1789** 48
914 x 457	812 x 508 1168 x 356 1016 x 406	0.40	4.01	**L/S** NC	**202** —	**403** —	**605** —	**806** 21	**1008** 26	**1209** 32	**1411** 37	**1612** 42	**1814** 45	**2015** 49
660 x 660	711 x 610 1219 x 356	0.42	4.19	**L/S** NC	**211** —	**422** —	**633** —	**844** 21	**1055** 26	**1266** 32	**1477** 37	**1688** 42	**1898** 45	**2109** 49

Performance Data – Metric

Fixed Blade Return Grilles and Registers • 5100, 6100 and 6700 Series
Models: 5145H, 6145H, 6745H, 5145V, 6145V, 6745V
51FB45, 61FB45, 67FB45

Listed Duct Size (mm)	Alternate Size (mm)	Core Area (m^2)	Ak Factor	Core Velocity, M/S VP Negative SP	30 0.2 0.7	61 0.5 3.5	91 1.5 7.7	122 2.5 13.7	152 4.0 21.4	183 5.5 30.8	213 7.7 41.8	244 9.9 54.7	274 12.4 69.1	305 15.4 85.5
762 x 610	711 x 660 914 x 508 812 x 559 1016 x 457	0.02	4.46	**L/S** NC	**225** —	**450** —	**675** 15	**900** 22	**1125** 27	**1351** 33	**1576** 38	**1801** 42	**2026** 46	**2251** 50
711 x 711	762 x 660 1016 x 508 914 x 559	0.03	4.85	**L/S** NC	**245** —	**491** —	**736** 15	**982** 22	**1227** 27	**1472** 33	**1718** 38	**1963** 43	**2208** 46	**2454** 50
914 x 610	762 x 711 1118 x 508 1016 x 559	0.03	5.35	**L/S** NC	**271** —	**542** —	**813** 15	**1083** 22	**1354** 28	**1625** 34	**1896** 38	**2167** 43	**2438** 47	**2709** 51
762 x 762	864 x 660 1219 x 508 965 x 610	0.04	5.57	**L/S** NC	**283** —	**565** —	**848** 15	**1131** 22	**1413** 28	**1696** 34	**1979** 39	**2261** 43	**2544** 47	**2827** 51
813 x 813	914 x 559 1168 x 559 965 x 711	0.04	6.34	**L/S** NC	**323** —	**646** —	**968** 16	**1291** 23	**1614** 29	**1937** 35	**2259** 39	**2582** 44	**2905** 48	**3228** 52
1219 x 610	864 x 864 965 x 762 914 x 813 1219 x 711	0.05	7.13	**L/S** NC	**363** —	**726** —	**1089** 17	**1452** 23	**1814** 29	**2177** 35	**2540** 40	**2903** 44	**3266** 48	**3629** 52
914 x 914	965 x 865 1168 x 711 1067 x 762 1219 x 660	0.06	8.02	**L/S** NC	**410** —	**820** —	**1230** 17	**1640** 24	**2050** 29	**2460** 36	**2871** 41	**3281** 45	**3691** 49	**4101** 53
965 x 965	1067 x 914 1219 x 762 1117 x 864	0.06	8.94	**L/S** NC	**458** —	**915** —	**1373** 18	**1831** 24	**2289** 30	**2746** 36	**3204** 41	**3662** 45	**4120** 49	**4577** 53
1016 x 1016	1067 x 914 1219 x 813 1168 x 965	0.07	9.90	**L/S** NC	**508** —	**1016** —	**1525** 18	**2033** 24	**2541** 30	**3049** 36	**3558** 42	**4066** 45	**4574** 50	**5082** 54
1067 x 1067	1118 x 1016 1219 x 914 1168 x 965	0.08	10.92	**L/S** NC	**561** —	**1122** —	**1683** 19	**2244** 25	**2805** 31	**3367** 37	**3928** 42	**4489** 46	**5050** 50	**5611** 54
1118 x 1118	1168 x 1067	0.12	11.98	**L/S** NC	**617** —	**1234** —	**1850** 19	**2467** 25	**3084** 31	**3701** 37	**4317** 42	**4934** 46	**5551** 50	**6168** 54
1168 x 1168		0.13	13.10	**L/S** NC	**675** —	**1350** —	**2024** 20	**2699** 26	**3374** 32	**4049** 38	**4724** 43	**5399** 47	**6073** 51	**6748** 55
1219 x 1219		0.14	14.26	**L/S** NC	**736** —	**1471** —	**2207** 20	**2943** 26	**3678** 32	**4414** 38	**5150** 43	**5886** 47	**6621** 51	**7357** 55

L/S - liters per second

M/S - meters per second (velocity)

VP - velocity pressure - Pa

Neg. SP - negative static pressure - Pa

NC - Noise Criteria (values) based on 10 dB room absorption, re 10^{-12} watts.

Performance Notes:

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

Neg. SP Listed Value x 0.91.

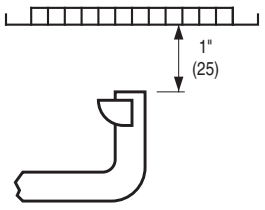
NC Listed value – 4.

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

Airflow Measurements

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

Air Measurement



Alnor Velometer with 2220A or 6070P Jet Probe

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 M/S).

4. Calculate the airflow (L/S) by multiplying the average velocity by the appropriate Ak factor.
Airflow (L/S) = 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:

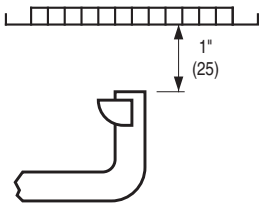
1. All pressures are in inches w.g..
2. Core Velocity is in feet per minute.
3. Performance data is for grille with opposed blade damper. Apply the following correction factors for grille without damper.

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.

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.

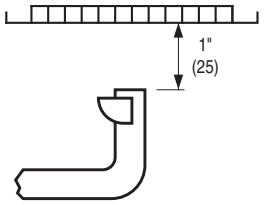
Negative Static Pressure Listed Value x 0.91.

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:

STEEL HEAVY DUTY RETURN GRILLES AND REGISTERS • 45° DEFLECTION

MODELS: 6145H-HD, 6145V-HD

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 .021	300 .006 .046	400 .010 .082	500 .016 .129	600 .022 .185	700 .031 .252	800 .040 .330	900 .050 .417	1000 .062 .515
6 x 6	8 x 4 10 x 4	0.20	0.23	**CFM** Noise Criteria	**20** –	**40** –	**60** –	**80** 15	**100** 20	**120** 25	**140** 30	**160** 34	**180** 38	**200** 42
8 x 6	10 x 5 12 x 4	0.28	0.30	**CFM** Noise Criteria	**28** –	**56** –	**84** –	**112** 16	**140** 21	**168** 26	**196** 31	**224** 35	**252** 39	**280** 43
10 x 6	12 x 5 16 x 4	0.35	0.37	**CFM** Noise Criteria	**35** –	**70** –	**105** –	**140** 17	**175** 22	**210** 27	**245** 32	**280** 36	**315** 40	**350** 44
8 x 8	14 x 5	0.38	0.40	**CFM** Noise Criteria	**38** –	**76** –	**114** –	**152** 18	**190** 23	**228** 28	**266** 33	**304** 37	**342** 41	**380** 45
12 x 6	18 x 4	0.42	0.45	**CFM** Noise Criteria	**42** –	**84** –	**126** –	**168** 19	**210** 24	**252** 29	**294** 33	**336** 38	**378** 42	**420** 46
12 x 8	16 x 6 24 x 4	0.58	0.59	**CFM** Noise Criteria	**58** –	**116** –	**174** 15	**232** 20	**290** 25	**348** 30	**406** 34	**464** 39	**522** 43	**580** 47
10 x 10	14 x 7 26 x 4	0.61	0.62	**CFM** Noise Criteria	**61** –	**122** –	**183** 15	**244** 20	**305** 25	**366** 30	**427** 35	**488** 40	**549** 43	**610** 47
18 x 6	14 x 8 28 x 4	30 x 4	0.65	0.67	**CFM** Noise Criteria	**65** –	**130** –	**195** 15	**260** 21	**325** 26	**390** 31	**455** 36	**520** 40	**585** 44	**650** 47
12 x 10	16 x 8 24 x 5	20 x 6	0.74	0.74	**CFM** Noise Criteria	**74** –	**148** –	**222** 16	**296** 21	**370** 26	**444** 31	**518** 36	**592** 41	**666** 45	**740** 48
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** 17	**360** 22	**450** 27	**540** 32	**630** 37	**720** 42	**810** 45	**900** 48
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** 18	**496** 22	**620** 27	**744** 32	**868** 37	**992** 42	**1116** 46	**1240** 49
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** 19	**548** 24	**685** 29	**822** 34	**959** 39	**1096** 44	**1233** 47	**1370** 50
24 x 10	20 x 12 30 x 8		1.52	1.49	**CFM** Noise Criteria	**152** –	**304** –	**456** 19	**608** 24	**760** 29	**912** 34	**1064** 39	**1216** 45	**1368** 48	**1520** 51
16 x 16	18 x 14 22 x 12	30 x 8	1.64	1.58	**CFM** Noise Criteria	**164** –	**328** –	**492** 20	**656** 25	**820** 30	**984** 35	**1148** 40	**1312** 45	**1476** 48	**1640** 51
24 x 12	18 x 16 20 x 14	30 x 10 36 x 8	1.85	1.78	**CFM** Noise Criteria	**185** –	**370** 15	**555** 20	**740** 25	**925** 30	**1110** 35	**1295** 40	**1480** 45	**1665** 48	**1850** 52
18 x 18	20 x 16 24 x 14	28 x 12 32 x 10	2.10	2.01	**CFM** Noise Criteria	**210** –	**420** 15	**630** 20	**840** 25	**1050** 30	**1260** 36	**1470** 41	**1680** 46	**1890** 49	**2100** 52
30 x 12	20 x 18 22 x 16	26 x 14 36 x 10	2.32	2.23	**CFM** Noise Criteria	**232** –	**464** 15	**696** 20	**928** 26	**1160** 31	**1392** 36	**1624** 41	**1856** 46	**2088** 49	**2320** 53
20 x 20	24 x 18 26 x 16	30 x 14 36 x 12	2.61	2.48	**CFM** Noise Criteria	**261** –	**522** 15	**783** 20	**1044** 26	**1305** 31	**1566** 37	**1827** 42	**2088** 47	**2349** 50	**2610** 53
22 x 22	24 x 20 26 x 18	30 x 16 36 x 14	3.17	3.00	**CFM** Noise Criteria	**317** –	**634** 16	**951** 21	**1268** 27	**1585** 32	**1902** 38	**2219** 42	**2536** 47	**2853** 50	**3170** 54
30 x 18	24 x 22 34 x 16	40 x 14	3.54	3.34	**CFM** Noise Criteria	**354** –	**708** 16	**1062** 21	**1416** 27	**1770** 32	**2124** 38	**2478** 43	**2832** 48	**3186** 51	**3540** 55
24 x 24	26 x 22 28 x 20	32 x 18 36 x 16	3.79	3.56	**CFM** Noise Criteria	**379** –	**758** 16	**1137** 21	**1516** 27	**1895** 32	**2274** 38	**2653** 43	**3032** 48	**3411** 51	**3790** 55
36 x 18	32 x 20 40 x 16	46 x 14	4.27	4.01	**CFM** Noise Criteria	**427** –	**854** 17	**1281** 22	**1708** 29	**2135** 34	**2562** 40	**2989** 45	**3416** 50	**3843** 53	**4270** 57
26 x 26	28 x 24 48 x 14		4.47	4.19	**CFM** Noise Criteria	**447** –	**894** 17	**1341** 22	**1788** 29	**2235** 34	**2682** 40	**3129** 45	**3576** 50	**4023** 53	**4470** 57
30 x 24	28 x 26 32 x 22	36 x 20 40 x 18	4.77	4.46	**CFM** Noise Criteria	**477** –	**954** 18	**1431** 23	**1908** 30	**2385** 35	**2862** 41	**3339** 46	**3816** 50	**4293** 54	**4770** 58
28 x 28	30 x 26 36 x 22	40 x 20	5.20	4.85	**CFM** Noise Criteria	**520** –	**1040** 18	**1560** 23	**2080** 30	**2600** 35	**3120** 41	**3640** 46	**4160** 51	**4680** 54	**5200** 58
36 x 24	30 x 28 40 x 22	44 x 20	5.74	5.35	**CFM** Noise Criteria	**574** –	**1148** 18	**1722** 23	**2296** 30	**2870** 36	**3444** 42	**4018** 47	**4592** 51	**5166** 55	**5740** 59
30 x 30	34 x 26 38 x 24	48 x 20	5.99	5.57	**CFM** Noise Criteria	**599** –	**1198** 18	**1797** 235	**2396** 30	**2995** 36	**3594** 42	**4193** 47	**4792** 51	**5391** 55	**5990** 59

For performance data notes, see F161.

PERFORMANCE DATA:

STEEL HEAVY DUTY RETURN GRILLES AND REGISTERS • 45° DEFLECTION

MODELS: 6145H-HD, 6145V-HD

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 .021	300 .006 .046	400 .010 .082	500 .016 .129	600 .022 .185	700 .031 .252	800 .040 .330	900 .050 .417	1000 .062 .515
32 x 32	36 x 30 46 x 22 38 x 28	6.84	6.34	**CFM** Noise Criteria	**684** 15	**1368** 19	**2052** 24	**2736** 31	**3420** 37	**4104** 43	**4788** 47	**5472** 52	**6156** 56	**6840** 60
48 x 24	34 x 34 38 x 30 36 x 32 48 x 28	7.69	7.13	**CFM** Noise Criteria	**769** 16	**1538** 20	**2307** 25	**3076** 31	**3845** 37	**4614** 43	**5383** 48	**6152** 52	**6921** 56	**7690** 60
36 x 36	38 x 34 46 x 28 42 x 30 48 x 26	8.69	8.02	**CFM** Noise Criteria	**869** 17	**1738** 21	**2607** 25	**3476** 32	**4345** 37	**5214** 44	**6083** 49	**6952** 53	**7821** 57	**8690** 61
38 x 38	42 x 34 48 x 30 44 x 34	9.70	8.94	**CFM** Noise Criteria	**970** 17	**1940** 22	**2910** 26	**3880** 32	**4850** 38	**5820** 44	**6790** 49	**7760** 53	**8730** 57	**9700** 61
40 x 40	42 x 36 48 x 32 46 x 34	10.77	9.90	**CFM** Noise Criteria	**1077** 17	**2154** 22	**3231** 27	**4308** 33	**5385** 39	**6462** 45	**7539** 51	**8616** 54	**9693** 59	**10770** 63
42 x 42	44 x 40 48 x 36 46 x 38	11.89	10.92	**CFM** Noise Criteria	**1189** 18	**2378** 23	**3567** 28	**4756** 34	**5945** 40	**7134** 46	**8323** 51	**9512** 55	**10701** 59	**11890** 63
44 x 44	46 x 42	13.07	11.98	**CFM** Noise Criteria	**1307** 18	**2614** 23	**3921** 28	**5228** 34	**6535** 40	**7842** 46	**9149** 51	**10456** 55	**11763** 59	**13070** 63
46 x 46		14.30	13.10	**CFM** Noise Criteria	**1430** 19	**2860** 24	**4290** 29	**5720** 35	**7150** 41	**8580** 47	**10010** 52	**11440** 56	**12870** 60	**14300** 64
48 x 48		15.59	14.26	**CFM** Noise Criteria	**1559** 19	**3118** 24	**4677** 29	**6236** 35	**7795** 41	**9354** 47	**10913** 52	**12472** 56	**14031** 60	**15590** 64

Performance Notes:

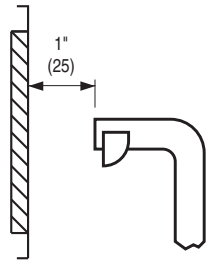
1. All pressures are in inches w.g..
2. Core Velocity is in feet per minute.
3. Performance data is for grille with opposed blade damper. Apply the following correction factors for grille without damper.

Neg. 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



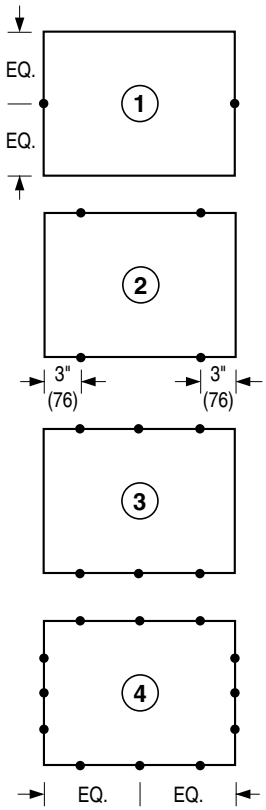
Alnor Velometer with 2220A or 6070P Jet Probe

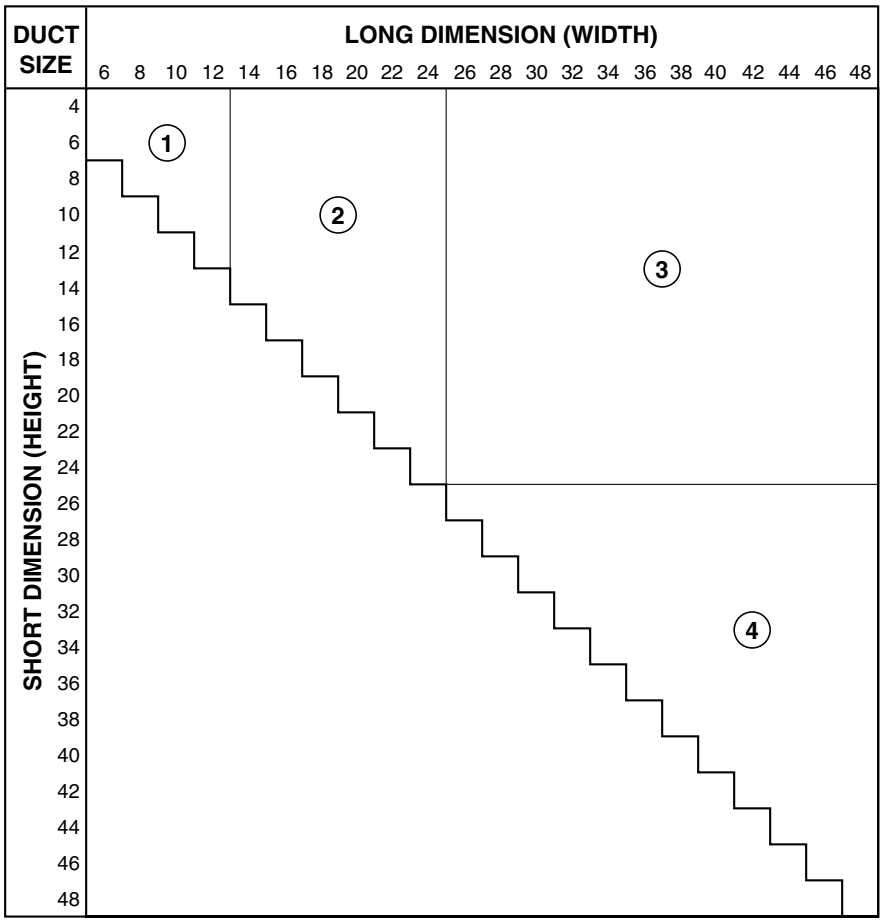
Airflow Measurements

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.

Nailor Industries Inc.

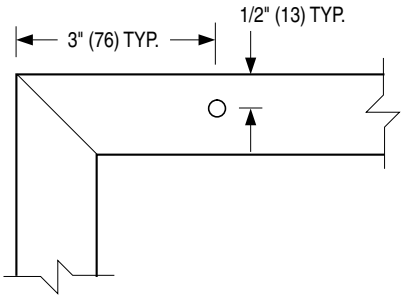
SCREW HOLE LOCATION CHART
FOR MODELS: 51C, 61C, 5100, 6100, 7100, 51EC TYPE S, 61EC TYPE S, 51PR, 61PR AND 51RC

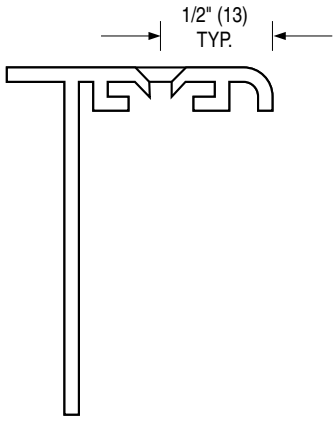




DESCRIPTION:

1. All screw holes are located 1/2" (13) in from the outside edge of the frame.
2. Use the chart above to determine which screw hole location diagram applies based on the duct size of the grille or register.
3. This information is provided for general information only. Pre-drilling of mounting holes is not recommended. The actual grille or register, as supplied, should be used as a template to enhance the installation quality.



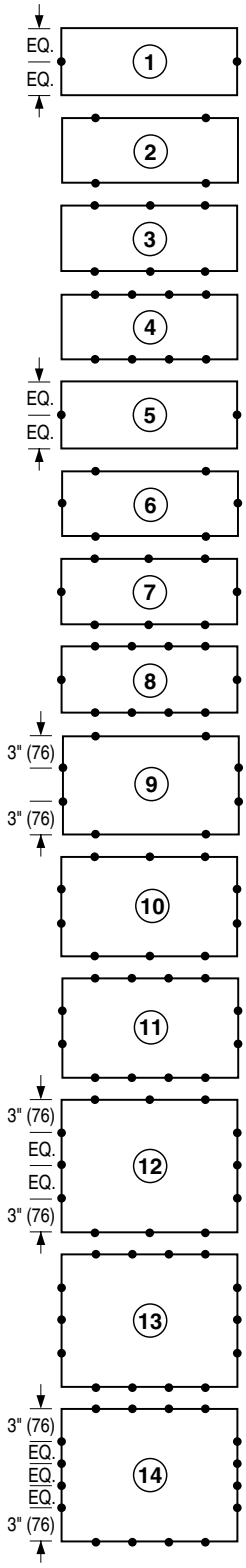


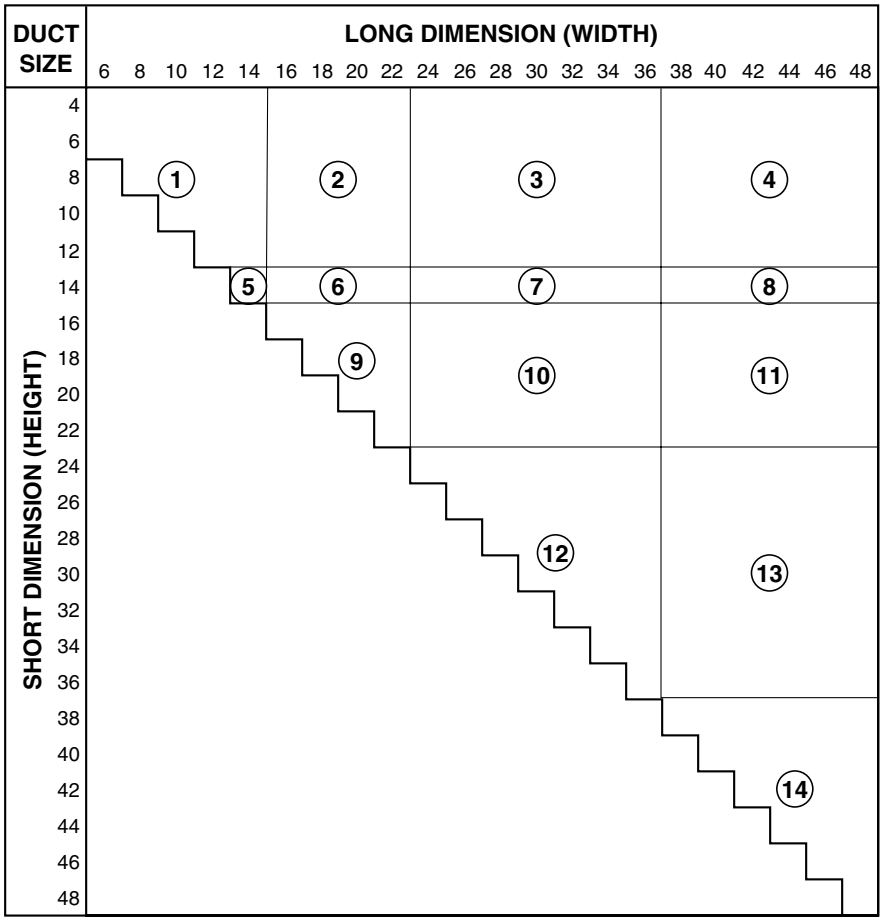
SCHEDULE TYPE:				
PROJECT:				
ENGINEER:	**DATE**	**B SERIES**	**SUPERSEDES**	**DRAWING NO.**
CONTRACTOR:	**30 - 4 - 01**	**SUPP./G&R**	**NEW**	**SHLC-1**

Dimensions are in inches (mm).

Nailor Industries Inc.

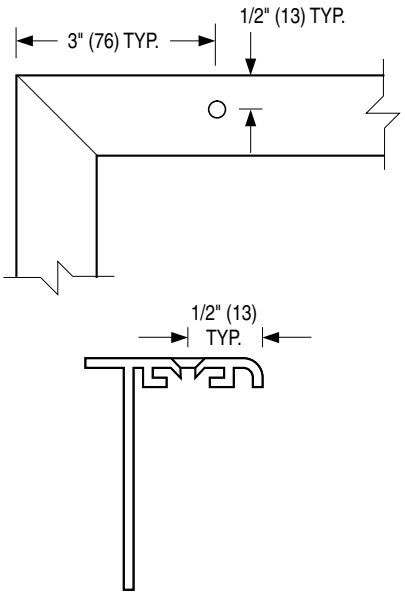
SCREW HOLE LOCATION CHART FOR MODELS: 5100-HD AND 6100-HD





DESCRIPTION:

1. All screw holes are located 1/2" (13) in from the outside edge of the frame.
2. Use the chart above to determine which screw hole location diagram applies based on the duct size of the grille or register.
3. This information is provided for general information only.
   Pre-drilling of mounting holes is not recommended. The actual grille or register, as supplied, should be used as a template to enhance the installation quality.



Dimensions are in inches (mm).

SCHEDULE TYPE:				
PROJECT:				
ENGINEER:	**DATE**	**B SERIES**	**SUPERSEDES**	**DRAWING NO.**
CONTRACTOR:	**30 - 4 - 01**	**SUPP./G&R**	**NEW**	**SHLC-2**