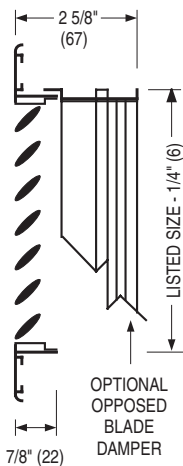
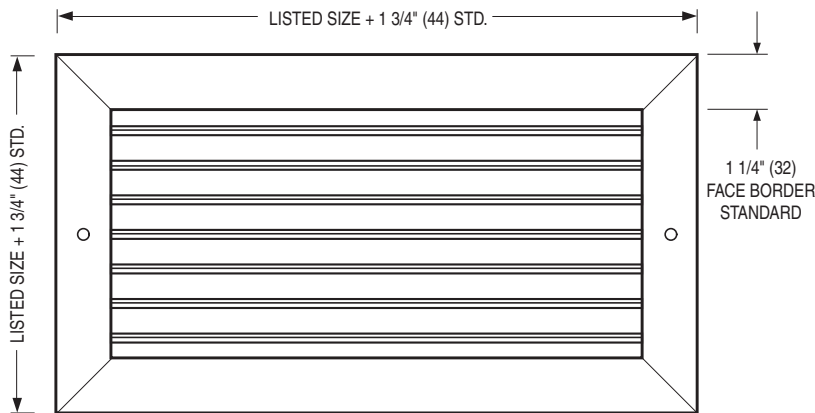
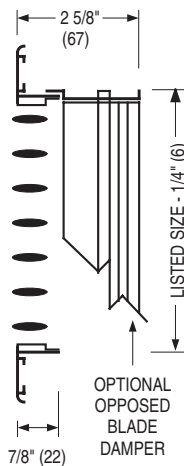




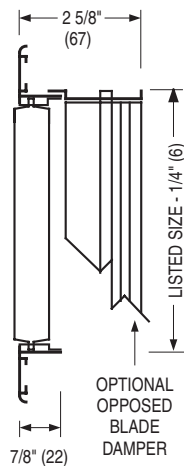
**ALUMINUM AIRFOIL BLADE
RETURN GRILLES & REGISTERS**
FIXED BLADES
**MODELS: 7145H(-O), 7145V(-O), 71FH(-O)
AND 71FV(-O)**



MODEL 7145H



MODEL 71FH



MODEL 71FV

- Frame/Border Type S:**
Surface Mount
- Model 7145H**
Single Deflection Grille
Fixed 45° Horizontal Blades
- Model 7145H-O**
Single Deflection Register
Fixed 45° Horizontal Blades
(Includes O. B. Damper)
- Model 7145V**
Single Deflection Grille
Fixed 45° Vertical Blades
- Model 7145V-O**
Single Deflection Register
Fixed 45° Vertical Blades
(Includes O. B. Damper)
- Model 71FH**
Single Deflection Grille
Fixed 0° Horizontal Blades
- Model 71FH-O**
Single Deflection Register
Fixed 0° Horizontal Blades
(Includes O. B. Damper)
- Model 71FV**
Single Deflection Grille
Fixed 0° Vertical Blades
- Model 71FV-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. Streamlined airfoil shaped solid blades on 3/4" (19) centers are fixed at 0 or 45 degrees to match and compliment the supply grilles and registers. Smooth blade design minimizes pressure drop and dirt accumulation. 45 degree models installed in a low or high sidewall location are vision proof, when installed with the blade deflection facing away from the line of site.
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 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
 - SP Special _____ .
2. Fastening:
 - 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

SCHEDULE TYPE:

PROJECT:

ENGINEER:

CONTRACTOR:

Page 1 of 3 Dimensions are in inches (mm).

DATE	B SERIES	SUPERSEDES	DRAWING NO.
9-1-20	7100	2-1-11	7100-3

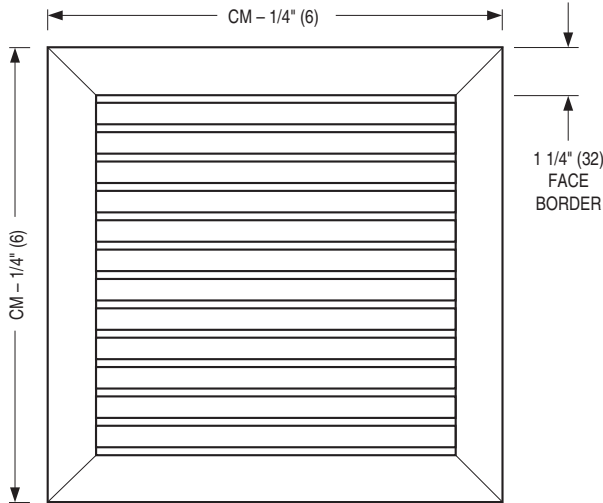


**ALUMINUM AIRFOIL BLADE
RETURN GRILLES & REGISTERS
FIXED BLADES
MODELS: 7145H(-O), 7145V(-O), 71FH(-O)
AND 71FV(-O)**

Full Face / Ceiling Modules

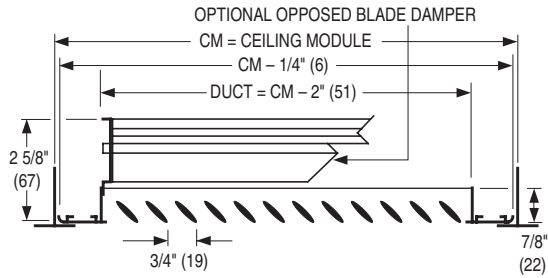
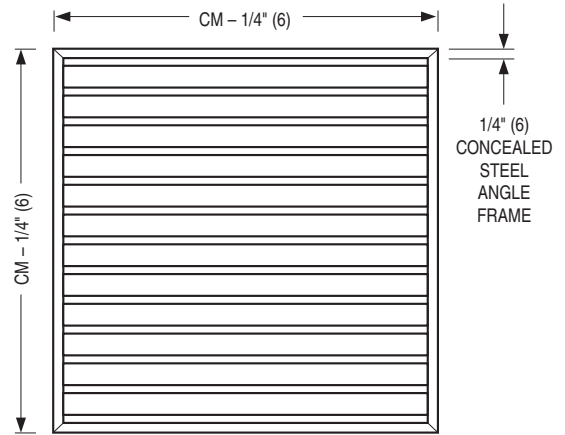
Frame/Border Type L:

Lay-in T-Bar Mount

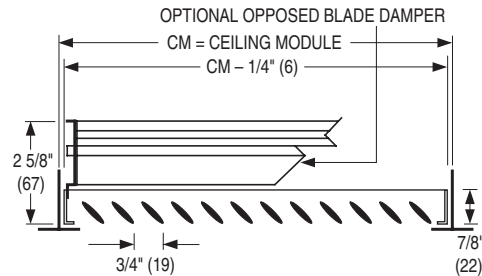


Frame/Border Type A:

Concealed Angle Frame Lay-in T-Bar
(non-ducted applications)



Model 7145H shown
Horizontal Blades (side view)



Model 7145H 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:

CONTRACTOR:

Page 2 of 3 Dimensions are in inches (mm).

DATE	B SERIES	SUPERSEDES	DRAWING NO.
9 - 1 - 20	7100	2 - 1 - 11	7100-3



**ALUMINUM AIRFOIL BLADE
RETURN GRILLES & REGISTERS
FIXED BLADES
MODELS: 7145H(-O), 7145V(-O), 71FH(-O)
AND 71FV(-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 Finline® Panel

Border Type FPA: Aluminum Finline® 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

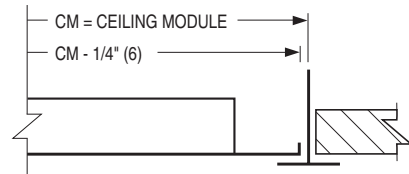
The grille or register is mounted in a panel that will extend below a 15/16" (24) Flat T-Bar ceiling grid.

Available Border Type PL, FP and TP Ceiling Module Sizes

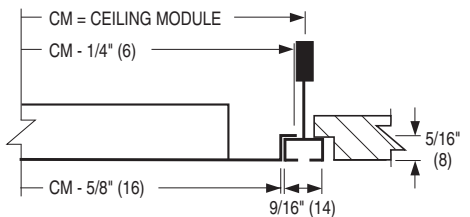
Ceiling Module	
Imperial Units (in.)	Metric Units (mm)
12 x 12	300 x 300
24 x 12	600 x 300
36 x 12	900 x 300
48 x 12	1200 x 300
20 x 20	500 x 500
24 x 24	600 x 600
36 x 24	900 x 600
48 x 24	1200 x 600

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

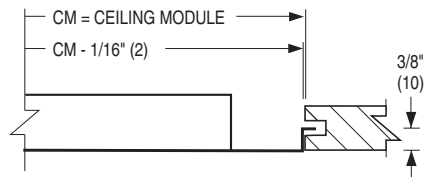
Type PL (S or A) Lay-in Panel



Type FP (S or A) Finline® Panel

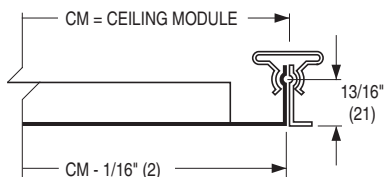


Type SP (S or A) Spline Panel

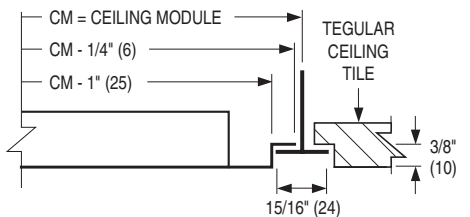


Note: Splines on two opposite sides.

Type MP (S or A) Metal Pan Panel



Type TP (S or A) Tegular Panel



SCHEDULE TYPE:

PROJECT:

ENGINEER:

CONTRACTOR:

Page 3 of 3 Dimensions are in inches (mm).

DATE

B SERIES

SUPERSEDES

DRAWING NO.

9 - 1 - 20

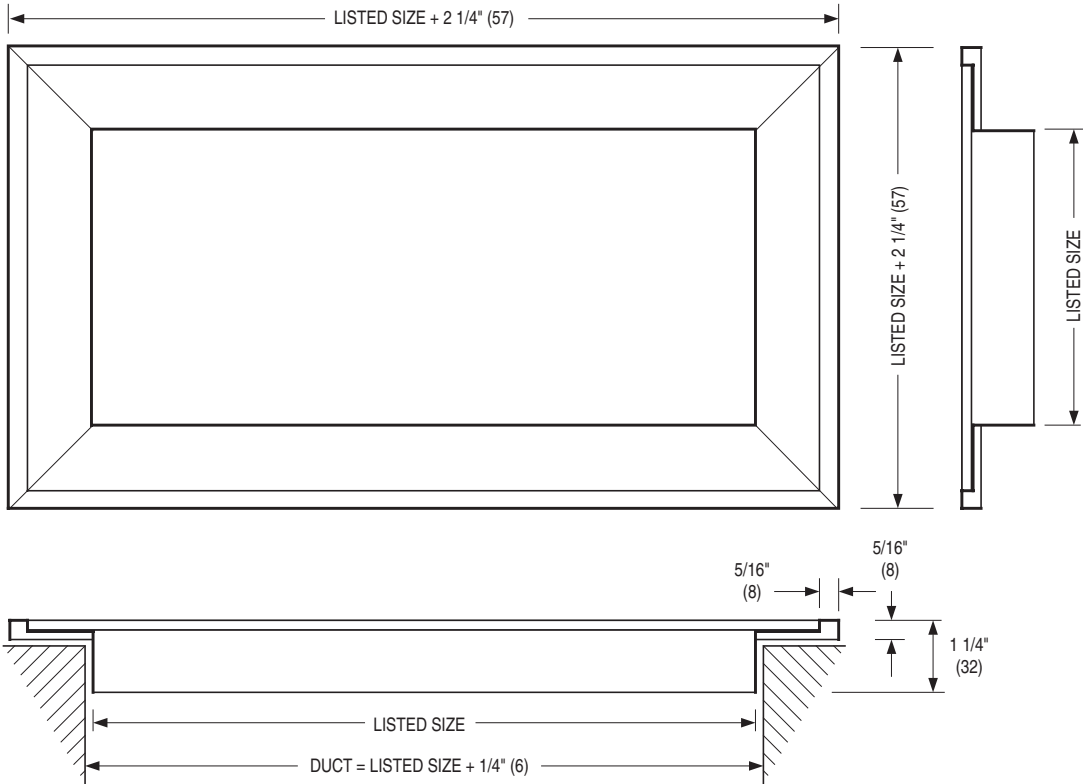
7100

2 - 1 - 11

7100-3

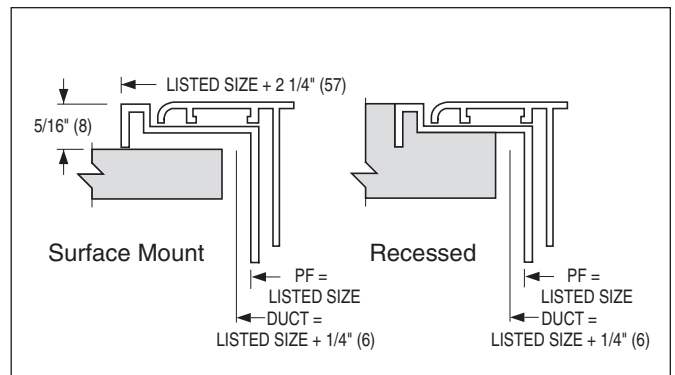


**GRILLES AND REGISTERS ACCESSORY
PLASTER/MOUNTING FRAME**
(FOR USE WITH MODEL SERIES 5100, 6100, AND 7100)
MODEL: PF



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.



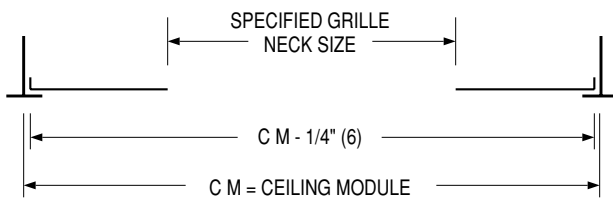
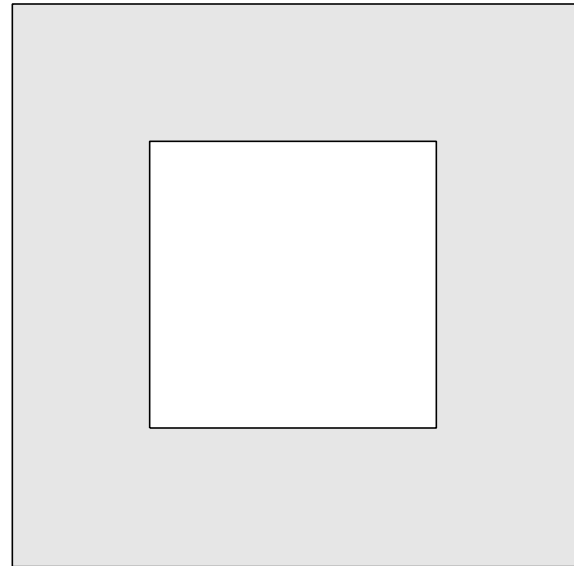
SCHEDULE TYPE:	
PROJECT:	
ENGINEER:	
CONTRACTOR:	

Dimensions are in inches (mm).

DATE	B SERIES	SUPERSEDES	DRAWING NO.
10 - 24 - 01	ACC-GR	5100-11	ACC-PF



ALUMINUM T-BAR MOUNTING PANEL
 (FOR USE WITH ALUMINUM RETURN
 GRILLES AND REGISTERS)
TYPE PLA



AVAILABLE 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

DESCRIPTION:

1. Material: Aluminum.
2. Type PLA mounting panels are for use with aluminum return grilles and registers, Model Series 51C, 5100, 51EC, 51PR and 7100 to fit standard exposed grid T-bar ceiling systems.
3. Grilles or registers are factory mounted in the auxiliary panel.
4. Maximum grille neck size = Ceiling Module - 3" (76).

5. Standard finish is AW Appliance White to match supply or return grille and register.

OPTIONS:

Finish:
 SP Special _____ .

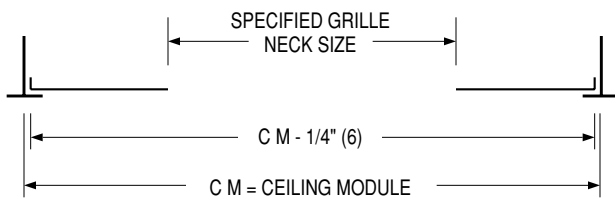
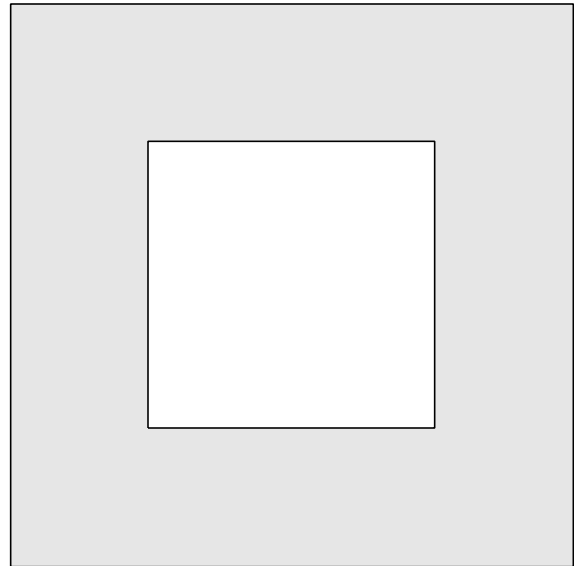
SCHEDULE TYPE:
PROJECT:
ENGINEER:
CONTRACTOR:

Dimensions are in inches (mm).

DATE	B SERIES	SUPERSEDES	DRAWING NO.
13 - 10 - 00R	ACC-GR	4-93/5100-PL	ACC-PLA



STEEL T-BAR MOUNTING PANEL
 (FOR USE WITH STEEL OR ALUMINUM
 RETURN GRILLES AND REGISTERS)
TYPE PLS



AVAILABLE 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

DESCRIPTION:

1. Material: Heavy gauge corrosion-resistant steel.
2. Type PLS mounting panels are for use with steel or aluminum return grilles and registers, Model Series 51C, 5100, 51EC, 51PR, 61C, 6100, 61EC, 61PR and 7100 to fit standard exposed grid T-bar ceiling systems.
3. Grilles or registers are factory mounted in the auxiliary panel.
4. Maximum grille neck size = Ceiling Module - 3" (76).

5. Standard finish is AW Appliance White to match supply or return grille and register.

OPTIONS:

Finish:
 SP Special _____ .

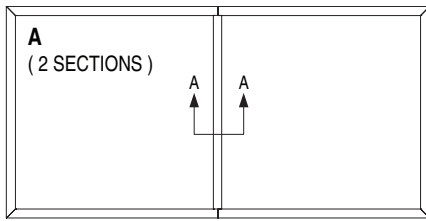
SCHEDULE TYPE:
PROJECT:
ENGINEER:
CONTRACTOR:

Dimensions are in inches (mm).

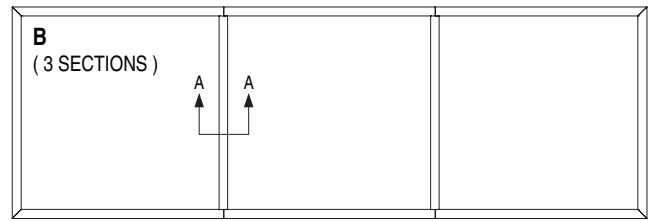
DATE	B SERIES	SUPERSEDES	DRAWING NO.
13 - 10 - 00R	ACC-GR	4-93/6100-PL	ACC-PLS



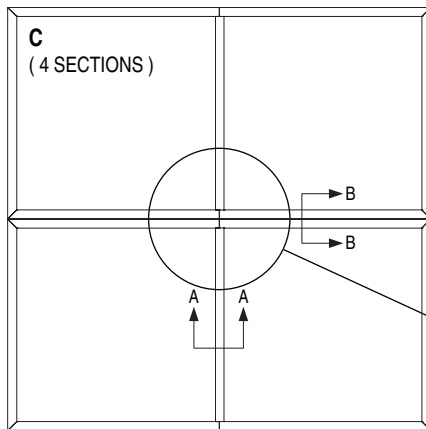
OVERSIZED GRILLE CONSTRUCTION
ALUMINUM SUPPLY AND RETURN GRILLES
FOR DUCTS OR OPENINGS LARGER THAN 48" (1219)
MODEL SERIES: 5100 AND 7100



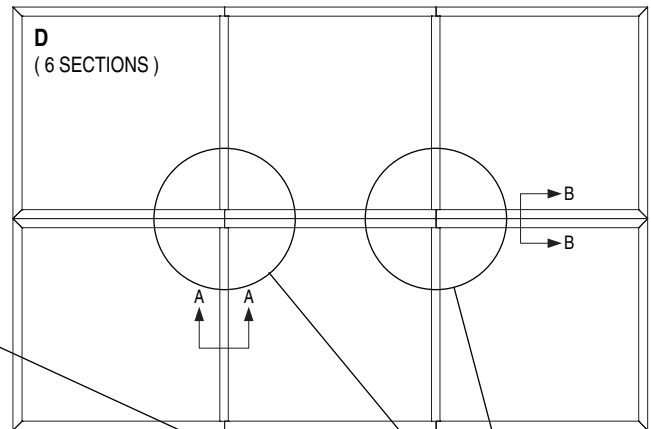
OVER 48" (1219) IN WIDTH UP TO 96" x 48" (2438 x 1219)



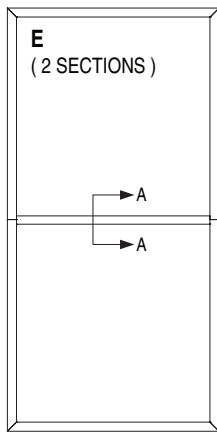
OVER 96" (2438) IN WIDTH UP TO 144" x 48" (3658 x 1219)



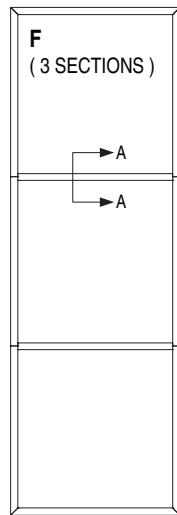
OVER 48" (1219) IN WIDTH AND HEIGHT UP TO 96" x 96" (2438 x 2438)



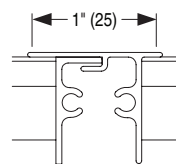
OVER 96" x 48" (2438 x 1219) UP TO 144" x 96" (3658 x 2438)



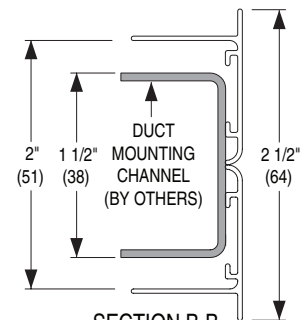
UP TO 48" (1219) IN WIDTH AND UP TO 96" (2438) IN HEIGHT



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:

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

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

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

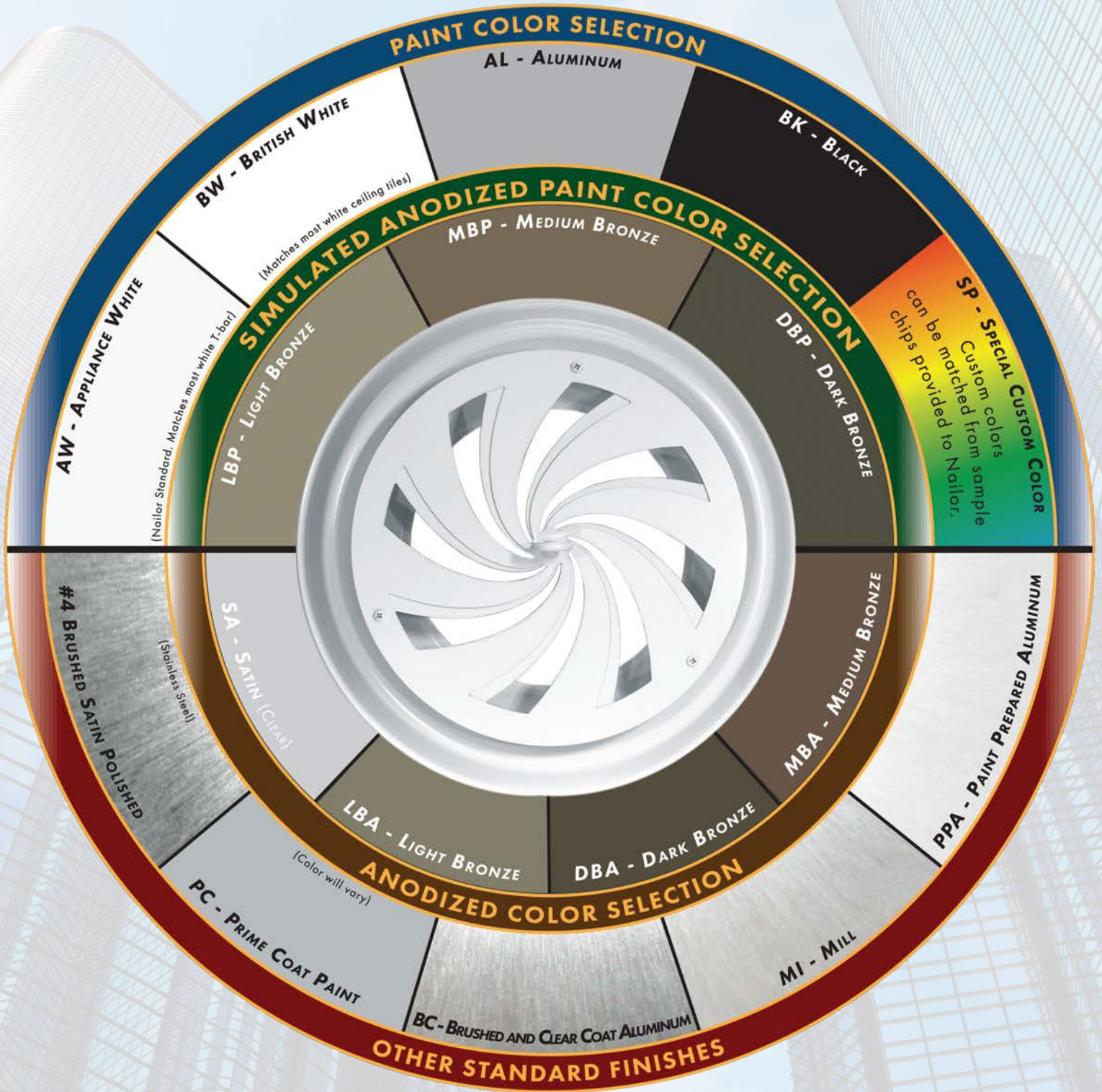
Surface is left untreated and requires cleaning, degreasing, etc. in the field before final finish can be applied if required.



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.

"Complete Air Control and Distribution Solutions."

WGDSOF2015

www.nailor.com

PERFORMANCE DATA:

FIXED BLADE RETURN GRILLES AND REGISTERS • AIRFOIL BLADE 7100 SERIES

MODELS: 7145H, 7145V

Listed Duct Size (inches)	Alternate Sizes (inches)	Core Area (sq. ft.)	Ak Factor	Core Velocity Velocity Pressure Neg. Static Pressure	100	200	300	400	500	600	700	800	900	1000
					.001 .003	.002 .011	.006 .025	.010 .045	.016 .070	.022 .101	.031 .138	.040 .180	.050 .228	.062 .281
6 x 6	8 x 4 10 x 4	0.20	0.23	CFM Noise Criteria	20 -	40 -	60 -	80 -	100 -	120 17	140 22	160 26	180 30	200 34
8 x 6	10 x 5 12 x 4	0.28	0.30	CFM Noise Criteria	28 -	56 -	84 -	112 -	140 -	168 18	196 23	224 27	252 31	280 35
10 x 6	12 x 5 16 x 4	0.35	0.37	CFM Noise Criteria	35 -	70 -	105 -	140 -	175 -	210 19	245 24	280 28	315 32	350 36
8 x 8	14 x 5	0.38	0.40	CFM Noise Criteria	38 -	76 -	114 -	152 -	190 15	228 20	266 25	304 29	342 33	380 37
12 x 6	18 x 4	0.42	0.45	CFM Noise Criteria	42 -	84 -	126 -	168 -	210 16	252 21	294 25	336 29	378 33	420 37
12 x 8	16 x 6 24 x 4	0.58	0.59	CFM Noise Criteria	58 -	116 -	174 -	232 -	290 17	348 22	406 26	464 31	522 35	580 39
10 x 10	14 x 7 26 x 4	0.61	0.62	CFM Noise Criteria	61 -	122 -	183 -	244 -	305 17	366 22	427 27	488 32	549 35	610 39
18 x 6	14 x 8 28 x 4	0.65	0.67	CFM Noise Criteria	65 -	130 -	195 -	260 -	325 18	390 23	455 28	520 32	585 36	650 39
12 x 10	16 x 8 24 x 5	0.74	0.74	CFM Noise Criteria	74 -	148 -	222 -	296 -	370 18	444 23	518 28	592 33	666 37	740 40
12 x 12	14 x 10 18 x 8	0.90	0.89	CFM Noise Criteria	90 -	180 -	270 -	360 -	450 19	540 24	630 29	720 34	810 37	900 40
14 x 14	16 x 12 20 x 10	1.24	1.22	CFM Noise Criteria	124 -	248 -	372 -	496 -	620 19	744 24	868 29	992 34	1116 38	1240 41
18 x 12	16 x 14 20 x 10	1.37	1.34	CFM Noise Criteria	137 -	274 -	411 -	548 15	685 20	822 25	959 30	1096 35	1233 38	1370 41
24 x 10	20 x 12 30 x 8	1.52	1.49	CFM Noise Criteria	152 -	304 -	456 -	608 15	760 20	912 25	1064 30	1216 36	1368 39	1520 42
16 x 16	18 x 14 22 x 12	1.64	1.58	CFM Noise Criteria	164 -	328 -	492 -	656 16	820 21	984 26	1148 31	1312 36	1476 39	1640 42
24 x 12	18 x 16 20 x 14	1.85	1.78	CFM Noise Criteria	185 -	370 -	555 -	740 16	925 21	1110 26	1295 31	1480 36	1665 39	1850 43
18 x 18	20 x 16 24 x 14	2.10	2.01	CFM Noise Criteria	210 -	420 -	630 -	840 16	1050 21	1260 27	1470 32	1680 37	1890 40	2100 43
30 x 12	20 x 18 22 x 16	2.32	2.23	CFM Noise Criteria	232 -	464 -	696 -	928 17	1160 22	1392 27	1624 32	1856 37	2088 40	2320 44
20 x 20	24 x 18 26 x 16	2.61	2.48	CFM Noise Criteria	261 -	522 -	783 -	1044 17	1305 22	1566 28	1827 33	2088 38	2349 41	2610 44
22 x 22	24 x 20 26 x 18	3.17	3.00	CFM Noise Criteria	317 -	634 -	951 -	1268 18	1585 23	1902 29	2219 33	2536 38	2853 41	3170 45
30 x 18	24 x 22 34 x 16	3.54	3.34	CFM Noise Criteria	354 -	708 -	1062 -	1416 18	1770 23	2124 29	2478 34	2832 39	3186 42	3540 46
24 x 24	26 x 22 28 x 20	3.79	3.56	CFM Noise Criteria	379 -	758 -	1137 -	1516 18	1895 23	2274 29	2653 34	3032 39	3411 42	3790 46
36 x 18	32 x 20 40 x 16	4.27	4.01	CFM Noise Criteria	427 -	854 -	1281 -	1708 19	2135 24	2562 30	2989 35	3416 40	3843 43	4270 47
26 x 26	28 x 24 48 x 14	4.47	4.19	CFM Noise Criteria	447 -	894 -	1341 -	1788 19	2235 24	2682 30	3129 35	3576 40	4023 43	4470 47
30 x 24	28 x 26 32 x 22	4.77	4.46	CFM Noise Criteria	477 -	954 -	1431 -	1908 20	2385 25	2862 31	3339 36	3816 40	4293 44	4770 48
28 x 28	30 x 26 36 x 22	5.20	4.85	CFM Noise Criteria	520 -	1040 -	1560 -	2080 20	2600 25	3120 31	3640 36	4160 41	4680 44	5200 48
36 x 24	30 x 28 40 x 22	5.74	5.35	CFM Noise Criteria	574 -	1148 -	1722 -	2296 20	2870 26	3444 32	4018 36	4592 41	5166 45	5740 49
30 x 30	34 x 26 38 x 24	5.99	5.57	CFM Noise Criteria	599 -	1198 -	1797 -	2396 20	2995 26	3594 32	4193 37	4792 41	5391 45	5990 49

For performance data notes, see F82.

PERFORMANCE DATA:

FIXED BLADE RETURN GRILLES AND REGISTERS • AIRFOIL BLADE 7100 SERIES

MODELS: 7145H, 7145V

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 .011	300 .006 .025	400 .010 .045	500 .016 .070	600 .022 .101	700 .031 .138	800 .040 .180	900 .050 .228	1000 .062 .281
32 x 32	36 x 30 46 x 22 38 x 28	6.84	6.34	CFM Noise Criteria	684 —	1368 —	2052 —	2736 21	3420 27	4104 33	4788 37	5472 42	6156 46	6840 50
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 15	3076 21	3845 27	4614 33	5383 38	6152 42	6921 46	7690 50
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 15	3476 22	4345 27	5214 34	6083 39	6952 43	7821 47	8690 51
38 x 38	42 x 34 48 x 30 44 x 34	9.70	8.94	CFM Noise Criteria	970 —	1940 —	2910 16	3880 22	4850 28	5820 34	6790 39	7760 43	8730 47	9700 51
40 x 40	42 x 36 48 x 32 46 x 34	10.77	9.90	CFM Noise Criteria	1077 —	2154 —	3231 16	4308 22	5385 28	6462 34	7539 40	8616 43	9693 48	10770 52
42 x 42	44 x 40 48 x 36 46 x 38	11.89	10.92	CFM Noise Criteria	1189 —	2378 —	3567 17	4756 23	5945 29	7134 35	8323 40	9512 44	10701 48	11890 52
44 x 44	46 x 42	13.07	11.98	CFM Noise Criteria	1307 —	2614 —	3921 17	5228 23	6535 29	7842 35	9149 40	10456 44	11763 48	13070 52
46 x 46		14.30	13.10	CFM Noise Criteria	1430 —	2860 —	4290 18	5720 24	7150 30	8580 36	10010 41	11440 45	12870 49	14300 53
48 x 48		15.59	14.26	CFM Noise Criteria	1559 —	3118 —	4677 18	6236 24	7795 30	9354 36	10913 41	12472 45	14031 49	15590 53

Performance Notes:

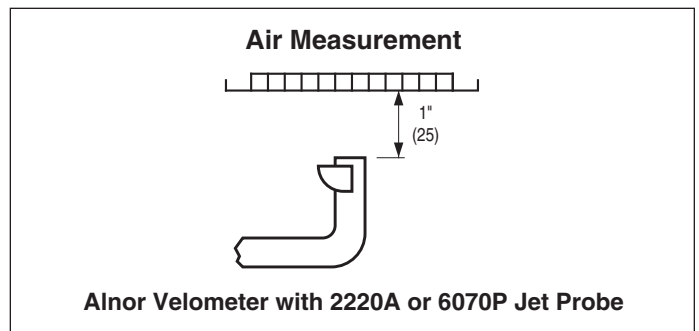
- All pressures are in inches w.g..
- Core Velocity is in feet per minute.
- Performance data is for grille with opposed blade damper. Apply the following correction factors for grille without damper.

Neg. Static Pressure Listed Value x 0.91.

Noise Criteria Listed value – 4.

4. Noise Criteria (NC) values are based on a room absorption of 10 dB, re 10⁻¹² watts. Dash (—) in space denotes a Noise Criteria level of less than 15.

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



Airflow Measurements:

- Balancing factors are applicable with or without dampers, providing uniform airflow exists into grille or register.
- 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.
- Total the various velocity readings and divide by the number of readings taken to arrive at an average inlet velocity (V_k in FPM).
- Calculate the airflow (CFM) by multiplying the average velocity by the appropriate Ak factor.
Airflow (CFM) = Average velocity (V_k) x Ak.

PERFORMANCE DATA:

FIXED BLADE RETURN GRILLES AND REGISTERS • AIRFOIL BLADE 7100 SERIES

MODELS: 71FH, 71FV

Listed Duct Size (inches)	Alternate Sizes (inches)	Core Area (sq. ft.)	Ak Factor	Core Velocity Velocity Pressure Neg. Static Pressure	100	200	300	400	500	600	700	800	900	1000
					.001 .002	.002 .007	.006 .017	.010 .030	.016 .047	.022 .067	.031 .092	.040 .120	.050 .152	.062 .187
6 x 6	8 x 4 10 x 4	0.20	0.23	CFM Noise Criteria	20 -	40 -	60 -	80 -	100 -	120 17	140 22	160 26	180 30	200 34
8 x 6	10 x 5 12 x 4	0.28	0.30	CFM Noise Criteria	28 -	56 -	84 -	112 -	140 -	168 18	196 23	224 27	252 31	280 35
10 x 6	12 x 5 16 x 4	0.35	0.37	CFM Noise Criteria	35 -	70 -	105 -	140 -	175 -	210 19	245 24	280 28	315 32	350 36
8 x 8	14 x 5	0.38	0.40	CFM Noise Criteria	38 -	76 -	114 -	152 -	190 15	228 20	266 25	304 29	342 33	380 37
12 x 6	18 x 4	0.42	0.45	CFM Noise Criteria	42 -	84 -	126 -	168 -	210 -	252 17	294 20	336 23	378 27	420 31
12 x 8	16 x 6 24 x 4	0.58	0.59	CFM Noise Criteria	58 -	116 -	174 -	232 -	290 -	348 17	406 20	464 24	522 28	580 32
10 x 10	14 x 7 26 x 4	0.61	0.62	CFM Noise Criteria	61 -	122 -	183 -	244 -	305 -	366 17	427 20	488 25	549 28	610 33
18 x 6	14 x 8 30 x 4 28 x 4	0.65	0.67	CFM Noise Criteria	65 -	130 -	195 -	260 -	325 -	390 18	455 21	520 25	585 29	650 33
12 x 10	16 x 8 20 x 6 24 x 5	0.74	0.74	CFM Noise Criteria	74 -	148 -	222 -	296 -	370 -	444 19	518 22	592 26	666 30	740 33
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 15	540 19	630 22	720 27	810 30	900 33
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 15	744 20	868 23	992 27	1116 31	1240 34
18 x 12	16 x 14 28 x 8 20 x 10 38 x 6	1.37	1.34	CFM Noise Criteria	137 -	274 -	411 -	548 -	685 16	822 21	959 24	1096 29	1233 32	1370 35
24 x 10	20 x 12 30 x 8	1.52	1.49	CFM Noise Criteria	152 -	304 -	456 -	608 -	760 16	912 21	1064 25	1216 30	1368 33	1520 36
16 x 16	18 x 14 30 x 10 22 x 12 36 x 8	1.64	1.58	CFM Noise Criteria	164 -	328 -	492 -	656 -	820 17	984 21	1148 25	1312 30	1476 33	1640 36
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 17	1110 22	1295 25	1480 30	1665 33	1850 37
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 17	1260 22	1470 26	1680 31	1890 34	2100 37
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 17	1392 22	1624 26	1856 31	2088 34	2320 38
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 17	1566 22	1827 26	2088 31	2349 34	2610 38
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 -	1585 18	1902 23	2219 27	2536 31	2853 34	3170 38
30 x 18	24 x 22 40 x 14 34 x 16	3.54	3.34	CFM Noise Criteria	354 -	708 -	1062 -	1416 -	1770 18	2124 23	2478 27	2832 32	3186 35	3540 39
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 -	1895 -	2274 -	2653 -	3032 -	3411 -	3790 -
36 x 18	32 x 20 46 x 14 40 x 16	4.27	4.01	CFM Noise Criteria	427 -	854 -	1281 -	1708 15	2135 20	2562 24	2989 28	3416 33	3843 36	4270 40
26 x 26	28 x 24 48 x 14	4.47	4.19	CFM Noise Criteria	447 -	864 -	1341 -	1788 15	2235 20	2682 24	3129 28	3576 33	4023 36	4470 40
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 16	2385 21	2862 25	3339 29	3816 33	4293 37	4770 41
28 x 28	30 x 26 40 x 20 36 x 22	5.20	4.85	CFM Noise Criteria	520 -	1040 -	1560 -	2080 16	2600 21	3120 25	3640 29	4160 34	4680 37	5200 41
36 x 24	30 x 28 44 x 20 40 x 22	5.74	5.35	CFM Noise Criteria	574 -	1148 -	1722 -	2296 16	2870 21	3444 25	4018 29	4592 34	5166 38	5740 42
30 x 30	34 x 26 48 x 20 38 x 24	5.99	5.57	CFM Noise Criteria	599 -	1198 -	1797 -	2396 16	2995 21	3594 26	4193 30	4792 34	5391 38	5990 42

GRILLES AND REGISTERS

F

For performance data notes, see F84.

PERFORMANCE DATA:

FIXED BLADE RETURN GRILLES AND REGISTERS • AIRFOIL BLADE 7100 SERIES

MODELS: 71FH, 71FV

Listed Duct Size (inches)	Alternate Sizes (inches)	Core Area (sq. ft.)	Ak Factor	Core Velocity Velocity Pressure Neg. Static Pressure	100	200	300	400	500	600	700	800	900	1000
					.001 .002	.002 .007	.006 .017	.010 .030	.016 .047	.022 .067	.031 .092	.040 .120	.050 .152	.062 .187
32 x 32	36 x 30 46 x 22 38 x 28	6.84	6.34	CFM	684	1368	2052	2736	3420	4104	4788	5472	6156	6840
				Noise Criteria	-	-	-	16	22	26	30	35	39	43
48 x 24	34 x 34 38 x 30 36 x 32 48 x 28	7.69	7.13	CFM	769	1538	2307	3076	3845	4614	5383	6152	6921	7690
				Noise Criteria	-	-	-	16	22	27	31	35	39	43
36 x 36	38 x 34 46 x 28 42 x 30 48 x 26	8.69	8.02	CFM	869	1738	2607	3476	4345	5214	6083	6952	7821	8690
				Noise Criteria	-	-	-	17	22	27	32	36	40	44
38 x 38	42 x 34 48 x 30 44 x 34	9.70	8.94	CFM	970	1940	2910	3880	4850	5820	6790	7760	8730	9700
				Noise Criteria	-	-	-	17	23	28	32	36	40	44
40 x 40	42 x 36 48 x 32 46 x 34	10.77	9.90	CFM	1077	2154	3231	4308	5385	6462	7539	8616	9693	10770
				Noise Criteria	-	-	-	18	24	28	33	36	41	45
42 x 42	44 x 40 48 x 36 46 x 38	11.89	10.92	CFM	1189	2378	3567	4756	5945	7134	8323	9512	10701	11890
				Noise Criteria	-	-	-	18	24	29	33	37	41	45
44 x 44	46 x 42	13.07	11.98	CFM	1307	2614	3921	5228	6535	7842	9149	10456	11763	13070
				Noise Criteria	-	-	-	18	24	29	33	37	41	45
46 x 46		14.30	13.10	CFM	1430	2860	4290	5720	7150	8580	10010	11440	12870	14300
				Noise Criteria	-	-	-	19	25	30	34	38	42	46
48 x 48		15.59	14.26	CFM	1559	3118	4677	6236	7795	9354	10913	12472	14031	15590
				Noise Criteria	-	-	-	19	25	30	34	38	42	46

Performance Notes:

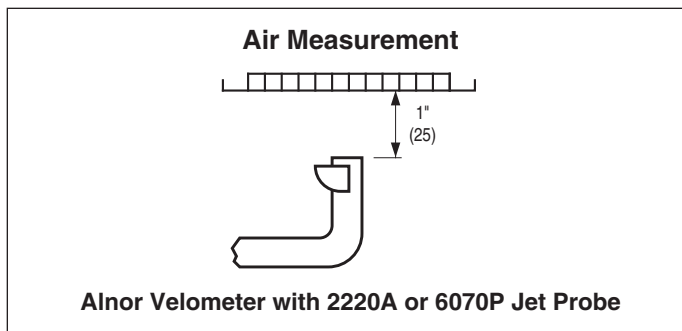
- All pressures are in inches w.g..
- Core Velocity is in feet per minute.
- Performance data is for grille with opposed blade damper. Apply the following correction factors for grille without damper.

Neg. Static Pressure Listed Value x 0.91.

Noise Criteria Listed value - 4.

4. Noise Criteria (NC) values are based on a room absorption of 10 dB, re 10⁻¹² watts. Dash (-) in space denotes a Noise Criteria level of less than 15.

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

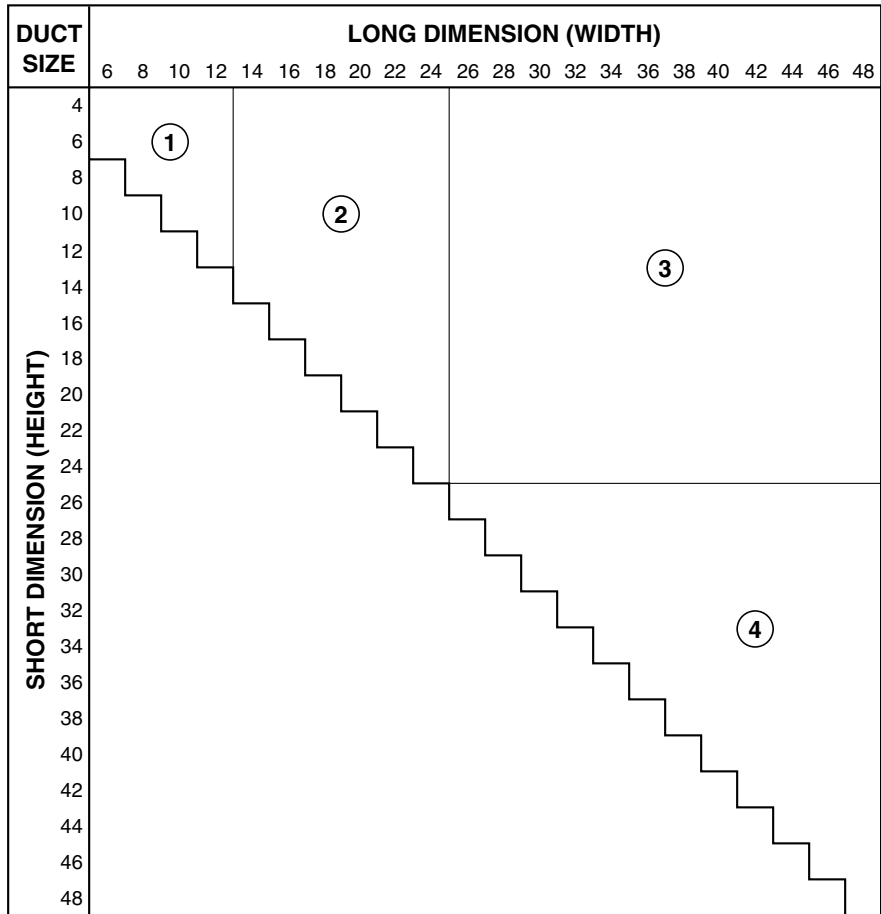
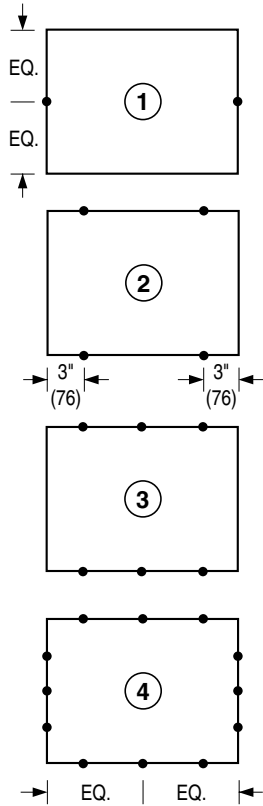


Airflow Measurements:

- Balancing factors are applicable with or without dampers, providing uniform airflow exists into grille or register.
- 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.
- Total the various velocity readings and divide by the number of readings taken to arrive at an average inlet velocity (V_k in FPM).
- Calculate the airflow (CFM) by multiplying the average velocity by the appropriate Ak factor.
Airflow (CFM) = Average velocity (V_k) x Ak.

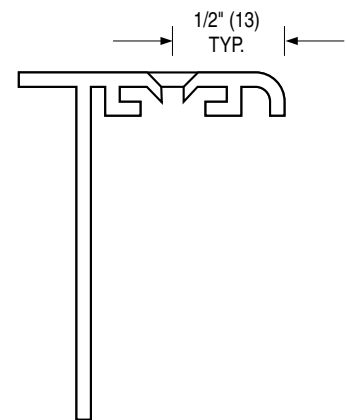
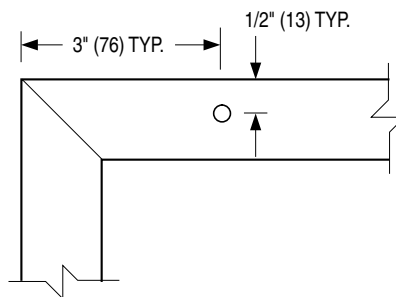
SCREW HOLE LOCATION CHART

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:

CONTRACTOR:

Dimensions are in inches (mm).

DATE

B SERIES

SUPERSEDES

DRAWING NO.

30 - 4 - 01

SUPP./G&R

NEW

SHLC-1