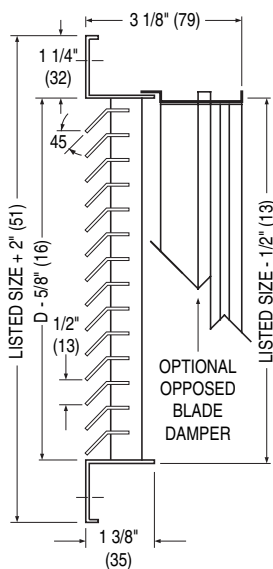
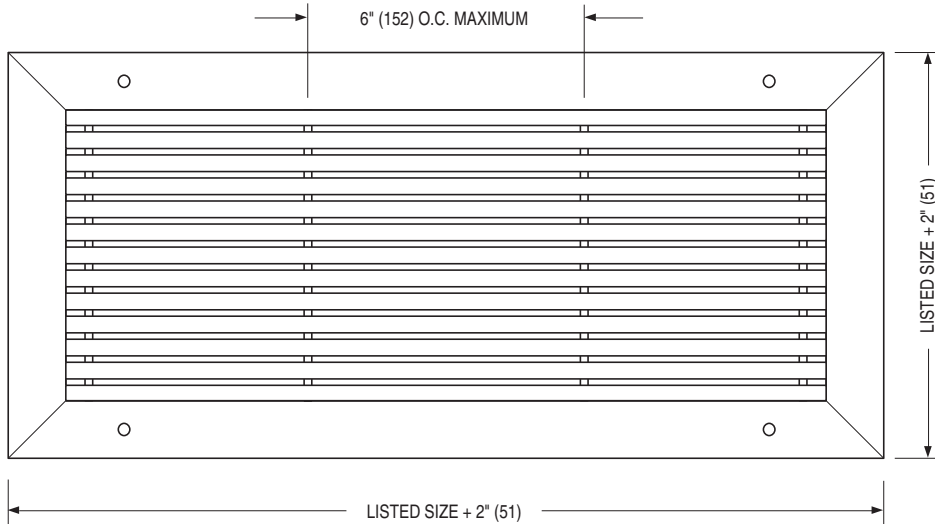
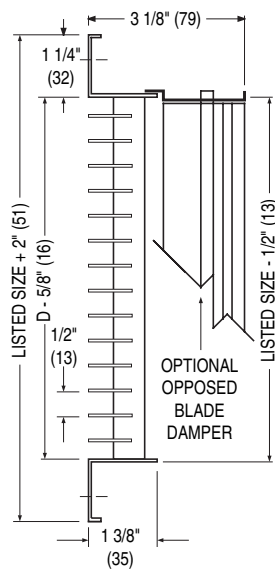




**STEEL HEAVY DUTY RETURN GRILLES
GYMNASIUM • LOUVERED
MODELS: 6145H-HD(-O), 6145V-HD(-O),
61FH-HD(-O) AND 61FV-HD(-O)**



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: _____.

Dimensions are in inches (mm).

SCHEDULE TYPE:

PROJECT:

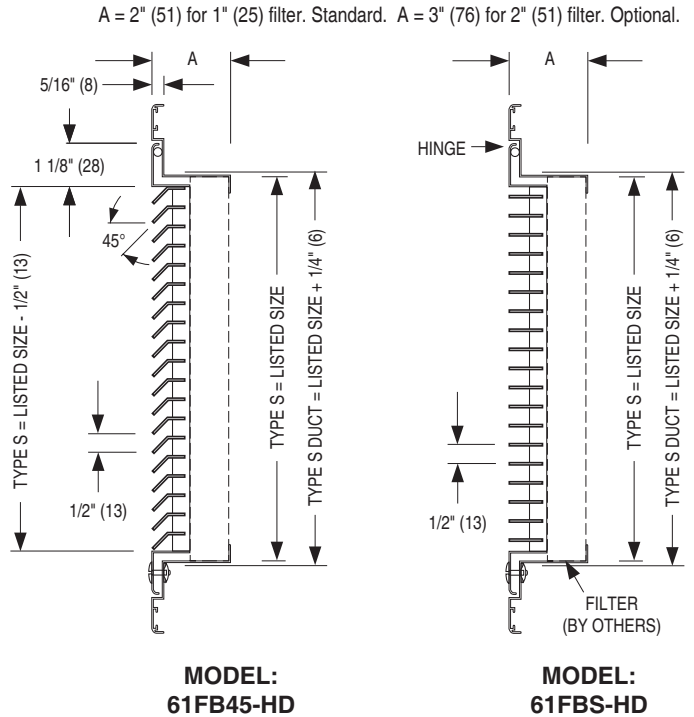
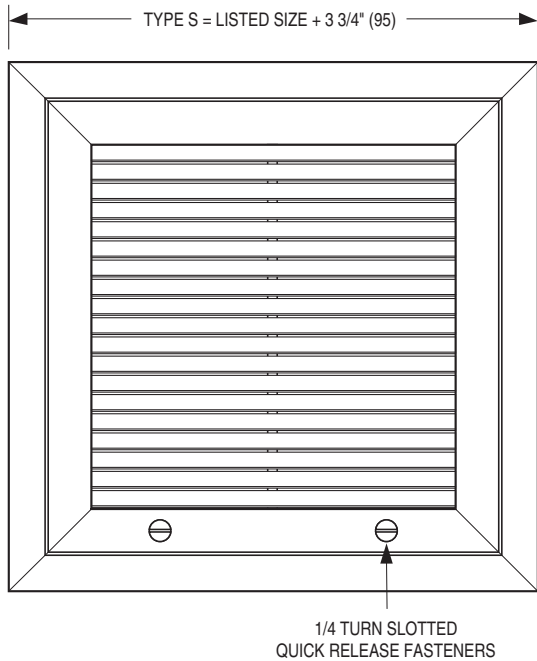
ENGINEER:

CONTRACTOR:

DATE	B SERIES	SUPERSEDES	DRAWING NO.
9 - 1 - 20	6100	2 - 1 - 11	6100HD-3



STEEL HEAVY DUTY FILTER RETURN GRILLES
FIXED LOUVERED BLADES • GYMNASIUM
MODELS: 61FB45-HD AND 61FBS-HD



MODELS:

- 61FB45-HD** 45° deflection, 1/2" (13) spacing
- 61FBS-HD** 0° deflection, 1/2" (13) spacing

FRAME/BORDER:

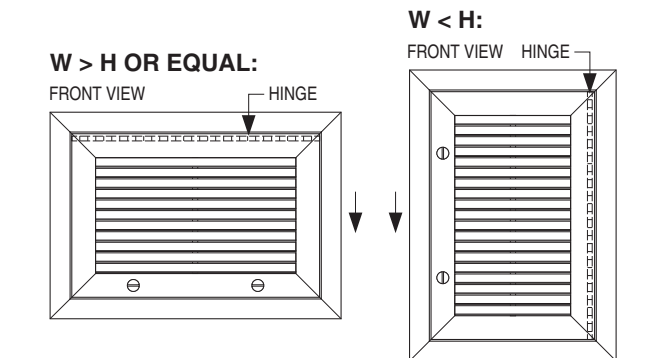
- Type S** Surface Mount

DESCRIPTION:

1. Material: Corrosion-resistant steel. Aluminum filter frame.
2. Grille Construction: Fixed blade angles in 45° or 0° deflection are 14 gauge material 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. Provision for 1" (25) filter (by others) is standard.
4. Type S available in nominal sizes 6" x 4" (152 x 102) through 36" x 24" (914 x 610) maximum with hinge. 48" x 36" (1219 x 914) maximum with QTO fasteners on all four sides.
5. Blades are parallel to width (first dimension).
6. Core is hinged and secured by 1/4 turn fasteners.
7. Hinge Orientation (blade deflection for 45 model shown by arrow).

Rectangular grilles: Parallel to long dimension on right hand side.

Square grilles: Parallel to width/blade orientation on top side.



8. Type N standard fastening is with sheet metal screws, (by others), through the neck of the outer frame for Type S Surface Mount installation.
9. Standard Finish: AW Appliance White.

OPTIONS:

1. Finish:
 - SP Special _____ .
2. F2 Provision for 2" (51) filter (by others).
3. Core Fastening:
 - QTO 1/4 turn slotted fasteners only (no hinge).

SCHEDULE TYPE:	Dimensions are in inches (mm).			
PROJECT:				
ENGINEER:	DATE	B SERIES	SUPERSEDES	DRAWING NO.
CONTRACTOR:	8 - 27 - 21	61F	NEW	61F-HD

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

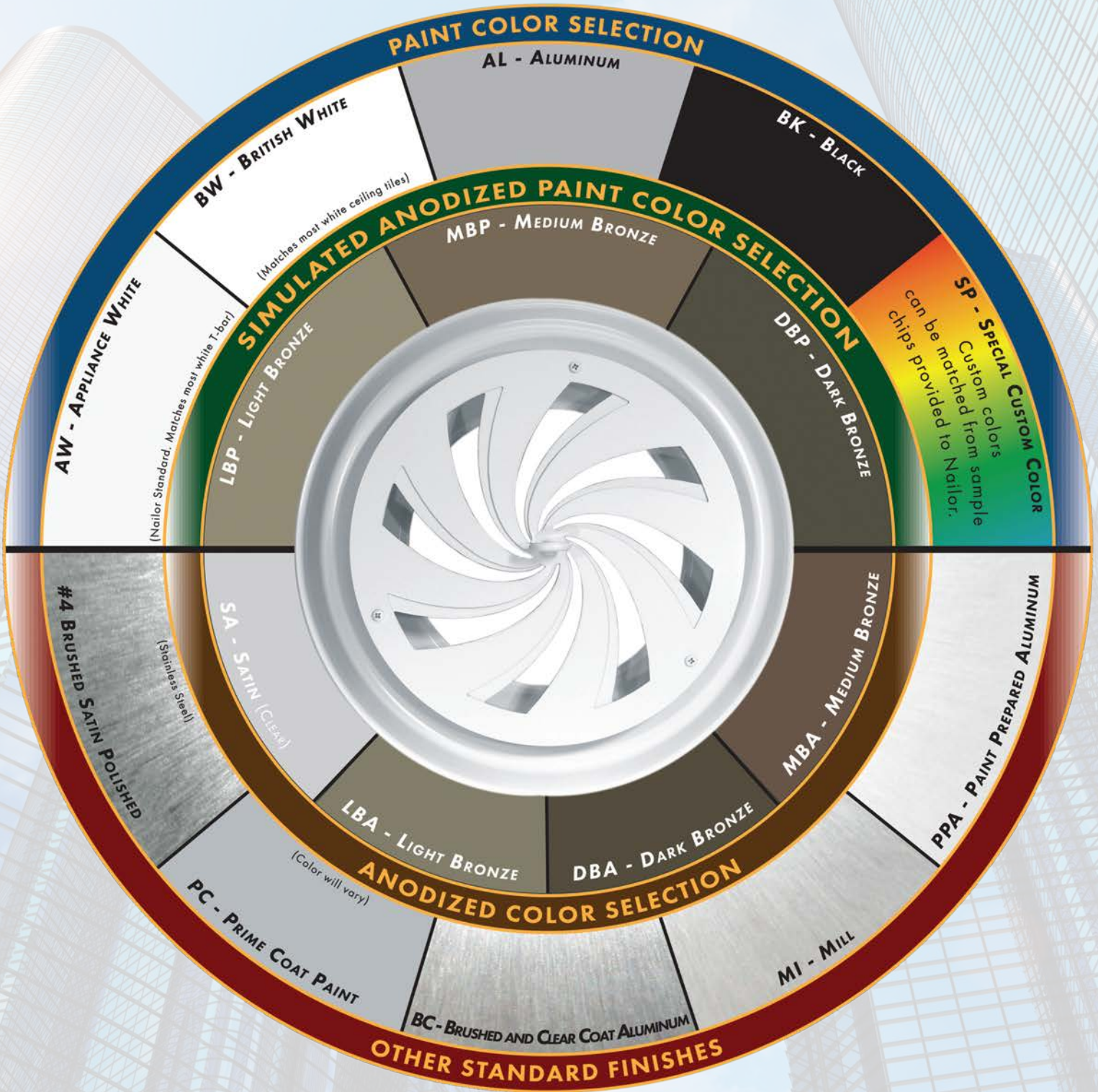
Surface is left untreated and requires cleaning, degreasing, etc. in the field before final finish can be applied if required.



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

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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	200	300	400	500	600	700	800	900	1000
					.001 .005	.002 .021	.006 .046	.010 .082	.016 .129	.022 .185	.031 .252	.040 .330	.050 .417	.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 30 x 4 28 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 20 x 6 24 x 5	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 24 x 6 18 x 8 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 24 x 8 20 x 10 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 28 x 8 22 x 10 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 30 x 8 22 x 12	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 30 x 10 20 x 14 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 28 x 12 24 x 14 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 26 x 14 22 x 16 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 30 x 14 26 x 16 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 30 x 16 26 x 18 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 40 x 14 34 x 16	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 32 x 18 28 x 20 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 46 x 14 40 x 16	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 36 x 20 32 x 22 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 40 x 20 36 x 22	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 44 x 20 40 x 22	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 48 x 20 38 x 24	5.99	5.57	CFM Noise Criteria	599 -	1198 18	1797 23	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	200	300	400	500	600	700	800	900	1000
					.001 .005	.002 .021	.006 .046	.010 .082	.016 .129	.022 .185	.031 .252	.040 .330	.050 .417	.062 .515
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	15	19	24	31	37	43	47	52	56	60
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	20	25	31	37	43	48	52	56	60
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	21	25	32	37	44	49	53	57	61
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	22	26	32	38	44	49	53	57	61
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	17	22	27	33	39	45	51	54	59	63
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	23	28	34	40	46	51	55	59	63
44 x 44	46 x 42	13.07	11.98	CFM	1307	2614	3921	5228	6535	7842	9149	10456	11763	13070
				Noise Criteria	18	23	28	34	40	46	51	55	59	63
46 x 46		14.30	13.10	CFM	1430	2860	4290	5720	7150	8580	10010	11440	12870	14300
				Noise Criteria	19	24	29	35	41	47	52	56	60	64
48 x 48		15.59	14.26	CFM	1559	3118	4677	6236	7795	9354	10913	12472	14031	15590
				Noise Criteria	19	24	29	35	41	47	52	56	60	64

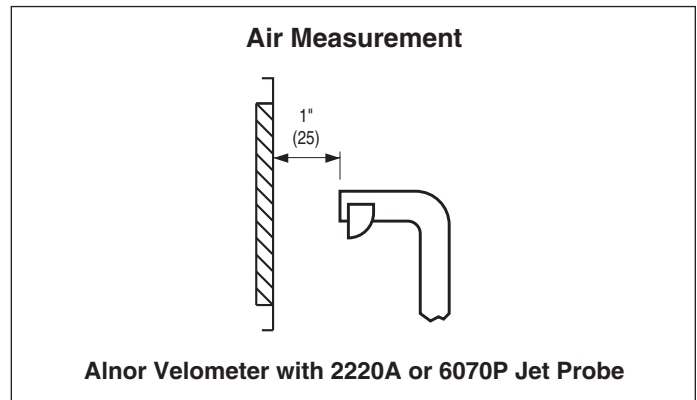
Performance Notes:

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.



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

PERFORMANCE DATA:

STEEL HEAVY DUTY RETURN GRILLES AND REGISTERS • 0° DEFLECTION

MODELS: 61FH-HD, 61FV-HD

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 .009	.006 .020	.010 .036	.016 .057	.022 .082	.031 .111	.040 .145	.050 .183	.062 .226
6 x 6	8 x 4 10 x 4	0.20	0.23	CFM Noise Criteria	20 -	40 -	60 -	80 -	100 -	120 18	140 20	160 23	180 27	200 32
8 x 6	10 x 5 12 x 4	0.28	0.30	CFM Noise Criteria	28 -	56 -	84 -	112 -	140 15	168 19	196 21	224 24	252 28	280 33
10 x 6	12 x 5 16 x 4	0.35	0.37	CFM Noise Criteria	35 -	70 -	105 -	140 -	175 16	210 20	245 22	280 25	315 29	350 34
8 x 8	14 x 5	0.38	0.40	CFM Noise Criteria	38 -	76 -	114 -	152 -	190 16	228 21	266 23	304 26	342 30	380 34
12 x 6	18 x 4	0.42	0.45	CFM Noise Criteria	42 -	84 -	126 -	168 -	210 17	252 21	294 24	336 27	378 31	420 35
12 x 8	16 x 6 24 x 4	0.58	0.59	CFM Noise Criteria	58 -	116 -	174 -	232 -	290 17	348 21	406 24	464 28	522 32	580 36
10 x 10	14 x 7 26 x 4	0.61	0.62	CFM Noise Criteria	61 -	122 -	183 -	244 -	305 17	366 21	427 24	488 29	549 32	610 37
18 x 6	14 x 8 28 x 4	0.65	0.67	CFM Noise Criteria	65 -	130 -	195 -	260 -	325 18	390 22	455 25	520 29	585 33	650 37
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 26	592 30	666 34	740 37
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 -	450 19	540 23	630 26	720 31	810 34	900 37
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 -	620 19	744 24	868 27	992 31	1116 35	1240 38
18 x 12	16 x 14 20 x 10 28 x 8 38 x 6	1.37	1.34	CFM Noise Criteria	137 -	274 -	411 -	548 15	685 20	822 25	959 28	1096 33	1233 36	1370 39
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 29	1216 34	1368 37	1520 40
16 x 16	18 x 14 22 x 12 30 x 8	1.64	1.58	CFM Noise Criteria	164 -	328 -	492 -	656 16	820 21	984 25	1148 29	1312 34	1476 37	1640 40
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 16	925 21	1110 26	1295 29	1480 34	1665 37	1850 41
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 16	1050 21	1260 26	1470 30	1680 35	1890 38	2100 41
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 16	1160 21	1392 26	1624 30	1856 35	2088 38	2320 42
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 16	1305 21	1566 26	1827 30	2088 35	2349 38	2610 42
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 17	1585 22	1902 27	2219 31	2536 35	2853 38	3170 42
30 x 18	24 x 22 34 x 16 40 x 14	3.54	3.34	CFM Noise Criteria	354 -	708 -	1062 -	1416 17	1770 22	2124 27	2478 31	2832 36	3186 39	3540 43
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 17	1895 22	2274 27	2653 32	3032 36	3411 39	3790 43
36 x 18	32 x 20 40 x 16 46 x 14	4.27	4.01	CFM Noise Criteria	427 -	854 -	1281 -	1708 19	2135 24	2562 28	2989 32	3416 37	3843 40	4270 44
26 x 26	28 x 24 48 x 14	4.47	4.19	CFM Noise Criteria	447 -	864 -	1341 -	1788 19	2235 24	2682 28	3129 32	3576 37	4023 40	4470 44
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 -	1908 20	2385 25	2862 29	3339 33	3816 37	4293 41	4770 45
28 x 28	30 x 26 36 x 22 40 x 20	5.20	4.85	CFM Noise Criteria	520 -	1040 -	1560 -	2080 20	2600 25	3120 29	3640 33	4160 38	4680 41	5200 45
36 x 24	30 x 28 40 x 22 44 x 20	5.74	5.35	CFM Noise Criteria	574 -	1148 -	1722 -	2296 20	2870 25	3444 29	4018 33	4592 38	5166 42	5740 46
30 x 30	34 x 26 38 x 24 48 x 20	5.99	5.57	CFM Noise Criteria	599 -	1198 -	1797 -	2396 20	2995 25	3594 30	4193 34	4792 38	5391 42	5990 46

For performance data notes, see F163.

PERFORMANCE DATA:

STEEL HEAVY DUTY RETURN GRILLES AND REGISTERS • 0° DEFLECTION

MODELS: 61FH-HD, 61FV-HD

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 .009	.006 .020	.010 .036	.016 .057	.022 .082	.031 .111	.040 .145	.050 .183	.062 .226
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	-	-	-	20	26	30	34	39	43	47
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	-	-	-	20	26	31	35	39	43	47
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	-	-	-	21	26	31	36	40	44	48
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	-	-	-	21	27	32	36	40	44	48
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	-	-	-	22	28	32	37	40	45	49
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	-	-	-	22	28	33	37	41	45	49
44 x 44	46 x 42	13.07	11.98	CFM	1307	2614	3921	5228	6535	7842	9149	10456	11763	13070
				Noise Criteria	-	-	-	22	28	33	37	41	45	49
46 x 46		14.30	13.10	CFM	1430	2860	4290	5720	7150	8580	10010	11440	12870	14300
				Noise Criteria	-	-	-	23	29	34	38	42	46	50
48 x 48		15.59	14.26	CFM	1559	3118	4677	6236	7795	9354	10913	12472	14031	15590
				Noise Criteria	-	-	-	23	29	34	38	42	46	50

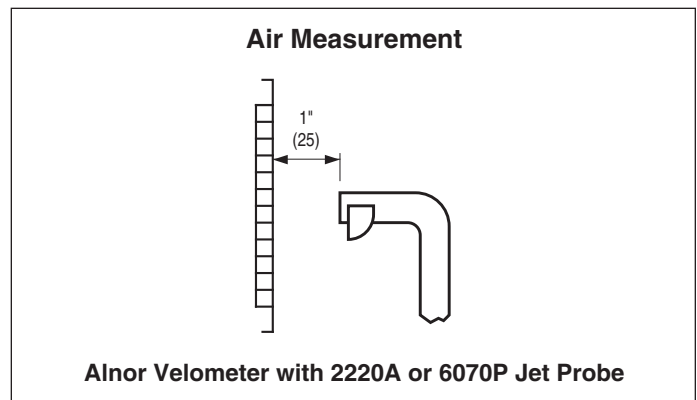
Performance Notes:

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.

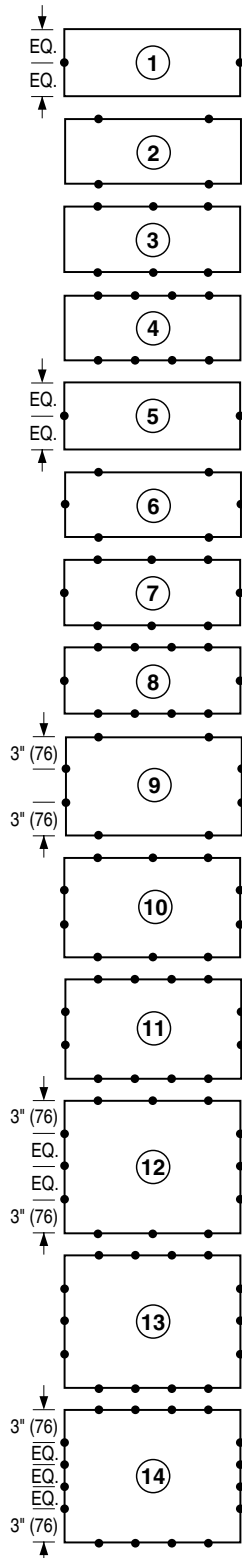
4. Noise Criteria (NC) values are based upon 10dB room absorption, re 10⁻¹² watts. Dash (-) in space indicates an Noise Criteria of less than 15.
5. Data derived from tests conducted in accordance with ANSI/ASHRAE Standard 70 - 2006.



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.

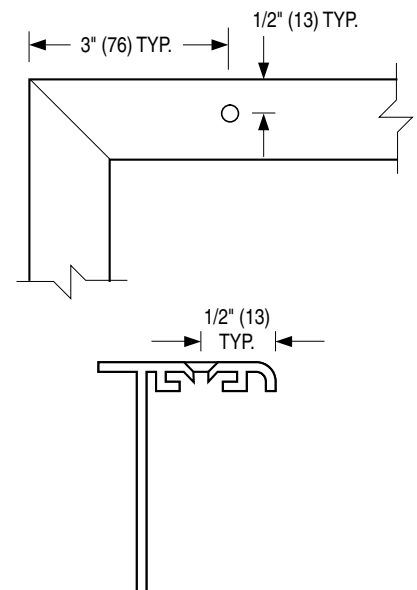
SCREW HOLE LOCATION CHART FOR MODELS: 5100-HD AND 6100-HD



DUCT SIZE	LONG DIMENSION (WIDTH)																						
	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48	
4																							
6																							
8			1				2					3								4			
10																							
12																							
14					5		6					7								8			
16																							
18							9																
20																							
22																							
24																							
26																							
28																							
30																							
32																							
34																							
36																							
38																							
40																							
42																							
44																							
46																							
48																							

DESCRIPTION:

- All screw holes are located 1/2" (13) in from the outside edge of the frame.
- Use the chart above to determine which screw hole location diagram applies based on the duct size of the grille or register.
- 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:			
CONTRACTOR:			
DATE	B SERIES	SUPERSEDES	DRAWING NO.
30 - 4 - 01	SUPP./G&R	NEW	SHLC-2