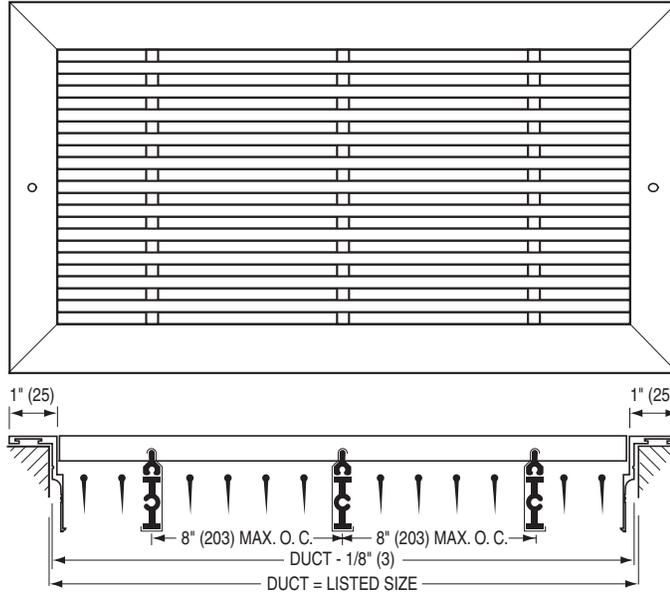
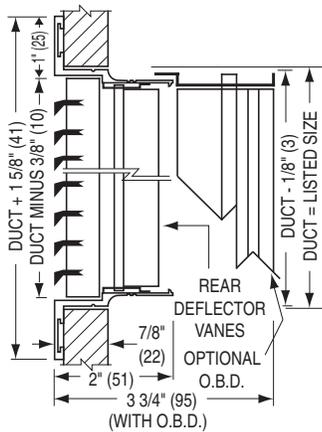




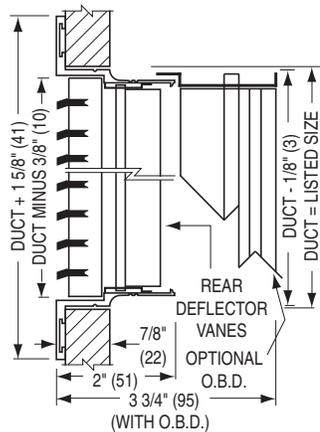
**ALUMINUM HEAVY DUTY BAR SUPPLY GRILLES
GYMNASIUM**
**MODELS: 51D30H-HD(-O), 51D30V-HD(-O),
 51D15H-HD(-O), 51D15V-HD(-O), 51DFH-HD(-O)
 AND 51DFV-HD(-O)**



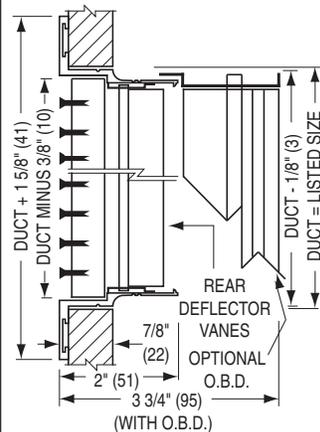
- MODEL 51D30H-HD**
30° Horizontal Blades
- MODEL 51D30H-HD-O**
30° Horizontal Blades
(Includes O. B. Damper)
- MODEL 51D30V-HD**
30° Vertical Blades
- MODEL 51D30V-HD-O**
30° Vertical Blades
(Includes O. B. Damper)
- MODEL 51D15H-HD**
15° Horizontal Blades
- MODEL 51D15H-HD-O**
15° Horizontal Blades
(Includes O. B. Damper)
- MODEL 51D15V-HD**
15° Vertical Blades
- MODEL 51D15V-HD-O**
15° Vertical Blades
(Includes O. B. Damper)
- MODEL 51DFH-HD**
0° Horizontal Blades
- MODEL 51DFH-HD-O**
0° Horizontal Blades
(Includes O. B. Damper)
- MODEL 51DFV-HD**
0° Vertical Blades
- MODEL 51DFV-HD-O**
0° Vertical Blades
(Includes O. B. Damper)



**Model 51D30H-HD
Model 51D30H-HD-O**
(Horizontal Shown)



**Model 51D15H-HD
Model 51D15H-HD-O**
(Horizontal Shown)



**Model 51DFH-HD
Model 51DFH-HD-O**
(Horizontal Shown)

NOTES:

1. Material: Heavy duty aluminum extrusions.
2. Construction: Heavy duty frame is staked and welded for maximum strength. Fixed front bars on 1/2" (13) centers are available in 30°, 15° or 0° deflection to suit air pattern requirement. 0° and 15° models feature 1/8" (3) bars and the 30° model features 1/4" (6) bars. All models are supplied with a set of friction pivoted rear vanes on 3/4" (19) centers that are individually adjustable for directional control and air pattern spread. Bars are reinforced and supported by an additional deep profile cross-bar. Spacing does not exceed 8" (203) on centers.
3. Optional opposed blade damper has a screwdriver adjustment accessible through the face of the register.
4. The minimum size is 6" x 4" (152 x 102).
The maximum size is 48" x 36" (1219 x 914).

5. Standard fastening is Type A countersunk screw holes.
6. Standard finish is AW Appliance White.

OPTIONS:

Fastening:

- Type C Concealed mounting straps [36" x 36" (914 x 914) max.]

Finish:

- AL Aluminum
- SA Satin Anodized
- SP Special _____ .

Dimensions are in inches (mm).

SCHEDULE TYPE:

PROJECT:

ENGINEER:

CONTRACTOR:

| DATE | B SERIES | SUPERSEDES | DRAWING NO. |
|-------------|----------|------------|-------------|
| 1 - 16 - 17 | 5100 | 2 - 1 - 11 | 5100-HD-2 |

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

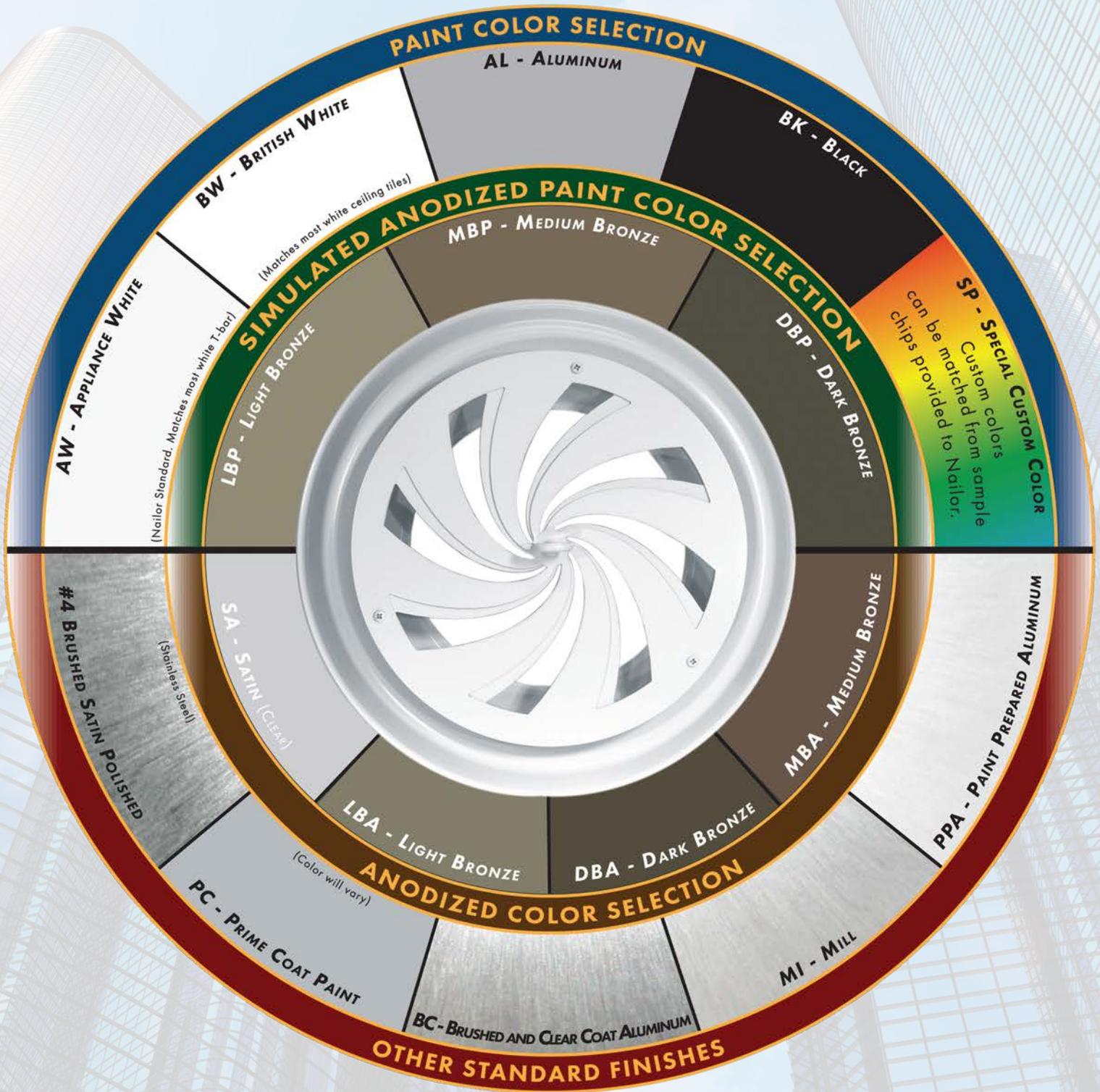
Surface is left untreated and requires cleaning, degreasing, etc. in the field before final finish can be applied if required.



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:

ALUMINUM HEAVY DUTY BAR GRILLES AND REGISTERS • 51D00-HD SERIES

MODELS: 51D30H-HD, 51D30V-HD, 51D15H-HD, 51D15V-HD, 51DFH-HD, 51DFV-HD

| Listed Duct Size (inches) | Alternate Sizes (inches) | Core Area (sq. ft.) | Ak Factor | Core Velocity | | 200 | 300 | 400 | 500 | 600 | 700 | 800 | 900 | 1000 |
|---------------------------|---------------------------------------|---------------------|-----------|----------------|----------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| | | | | Velocity | Pressure | .003 | .006 | .010 | .016 | .022 | .031 | .040 | .051 | .062 |
| 6 x 6 | 8 x 4 10 x 4 | 0.20 | | CFM | | 40 | 60 | 80 | 100 | 120 | 140 | 160 | 180 | 200 |
| | | | | Noise Criteria | | — | — | — | — | 24 | 29 | 33 | 36 | 39 |
| | | | | Throw | 0° | 2-5-10 | 5-7-13 | 7-9-16 | 8-12-18 | 10-14-20 | 11-15-21 | 12-16-23 | 14-17-24 | 15-18-25 |
| 22 1/2° | 2-4-8 | 4-6-10 | 6-7-13 | | 6-10-14 | 8-11-16 | 9-12-17 | 10-13-18 | 11-14-19 | 12-14-20 | | | | |
| 45° | 1-2-5 | 3-4-7 | 4-5-8 | | 5-7-10 | 6-8-11 | 6-8-12 | 7-8-12 | 8-9-13 | | | | | |
| 8 x 6 | 10 x 5 12 x 4 | 0.27 | | CFM | | 54 | 81 | 108 | 135 | 162 | 189 | 216 | 243 | 270 |
| | | | | Noise Criteria | | — | — | — | 20 | 25 | 30 | 34 | 37 | 40 |
| | | | | Throw | 0° | 2-5-12 | 5-8-15 | 8-12-18 | 10-14-20 | 11-16-23 | 13-18-25 | 15-19-27 | 16-20-28 | 17-21-30 |
| 22 1/2° | 2-4-10 | 4-6-12 | 6-10-14 | | 8-11-16 | 9-13-18 | 10-14-20 | 12-15-22 | 13-16-22 | 14-17-24 | | | | |
| 45° | 1-2-6 | 3-4-8 | 4-6-9 | | 5-7-10 | 6-8-12 | 7-9-13 | 8-10-14 | 8-10-14 | 9-11-15 | | | | |
| 10 x 6 | 12 x 5 16 x 4 | 0.35 | | CFM | | 70 | 105 | 140 | 175 | 210 | 245 | 280 | 315 | 350 |
| | | | | Noise Criteria | | — | — | — | 21 | 26 | 31 | 35 | 38 | 41 |
| | | | | Throw | 0° | 3-6-14 | 6-9-18 | 9-13-21 | 10-16-24 | 12-19-26 | 15-20-28 | 17-21-30 | 19-22-31 | 20-23-33 |
| 22 1/2° | 2-5-11 | 5-7-14 | 7-10-17 | | 8-13-19 | 10-15-21 | 12-16-22 | 14-17-24 | 15-18-25 | 16-18-26 | | | | |
| 45° | 1-3-7 | 3-5-9 | 5-7-11 | | 5-8-12 | 6-10-13 | 8-10-14 | 9-11-15 | 9-11-15 | 10-12-17 | | | | |
| 8 x 8 | 14 x 5 | 0.38 | | CFM | | 76 | 114 | 152 | 190 | 228 | 266 | 304 | 342 | 380 |
| | | | | Noise Criteria | | — | — | — | 22 | 27 | 33 | 36 | 39 | 43 |
| | | | | Throw | 0° | 3-6-15 | 6-9-19 | 9-14-22 | 11-16-25 | 13-19-27 | 16-21-29 | 18-22-32 | 18-23-32 | 19-24-34 |
| 22 1/2° | 2-5-12 | 5-7-15 | 7-11-18 | | 9-13-20 | 10-15-22 | 13-17-23 | 14-18-26 | 14-18-26 | 15-19-27 | | | | |
| 45° | 1-3-7 | 3-5-10 | 5-7-11 | | 6-8-13 | 7-10-14 | 8-11-15 | 9-11-16 | 9-11-16 | 10-12-17 | | | | |
| 12 x 6 | 18 x 4 | 0.42 | | CFM | | 84 | 126 | 168 | 210 | 252 | 294 | 336 | 378 | 420 |
| | | | | Noise Criteria | | — | — | — | 22 | 27 | 33 | 36 | 39 | 42 |
| | | | | Throw | 0° | 3-6-15 | 6-9-19 | 9-14-22 | 11-16-25 | 13-19-27 | 16-21-30 | 18-22-32 | 18-23-32 | 19-11-16 |
| 22 1/2° | 2-5-12 | 5-7-15 | 7-11-18 | | 9-13-20 | 10-15-22 | 13-17-24 | 14-18-26 | 14-18-26 | 15-19-27 | | | | |
| 45° | 1-3-7 | 3-5-10 | 5-7-11 | | 6-8-13 | 7-10-14 | 8-11-15 | 9-11-16 | 9-11-16 | 10-12-17 | | | | |
| 14 x 6 | 10 x 8 | 0.50 | | CFM | | 100 | 150 | 200 | 250 | 300 | 350 | 400 | 450 | 500 |
| | | | | Noise Criteria | | — | — | 16 | 23 | 28 | 33 | 37 | 40 | 43 |
| | | | | Throw | 0° | 3-7-16 | 6-11-20 | 10-15-23 | 12-18-25 | 15-20-28 | 16-22-31 | 19-23-33 | 20-24-34 | 21-25-36 |
| 22 1/2° | 2-6-13 | 5-9-16 | 8-12-18 | | 10-14-20 | 12-16-22 | 13-18-25 | 15-18-26 | 16-19-27 | 17-20-29 | | | | |
| 45° | 1-3-8 | 3-6-10 | 5-8-12 | | 6-9-13 | 8-10-14 | 8-11-16 | 10-12-17 | 10-12-17 | 11-13-18 | | | | |
| 12 x 8 | 16 x 6 24 x 4 | 0.58 | | CFM | | 116 | 174 | 232 | 290 | 348 | 406 | 464 | 522 | 580 |
| | | | | Noise Criteria | | — | — | 17 | 25 | 29 | 34 | 38 | 41 | 44 |
| | | | | Throw | 0° | 3-7-17 | 7-11-21 | 10-15-24 | 12-19-27 | 15-21-30 | 17-23-32 | 20-24-34 | 21-26-36 | 22-27-38 |
| 22 1/2° | 2-6-14 | 6-9-17 | 8-12-19 | | 10-15-22 | 12-17-24 | 14-18-26 | 16-19-27 | 17-21-29 | 18-22-30 | | | | |
| 45° | 1-3-8 | 4-6-11 | 5-8-12 | | 6-10-14 | 8-11-15 | 9-12-16 | 10-12-17 | 10-13-18 | 11-14-19 | | | | |
| 10 x 10 | 14 x 7 26 x 4 | 0.61 | | CFM | | 122 | 183 | 244 | 305 | 366 | 427 | 488 | 549 | 610 |
| | | | | Noise Criteria | | — | — | 17 | 24 | 29 | 34 | 38 | 41 | 44 |
| | | | | Throw | 0° | 3-7-17 | 7-11-21 | 10-16-24 | 13-19-28 | 16-21-30 | 17-23-32 | 20-24-35 | 22-27-37 | 23-28-39 |
| 22 1/2° | 2-6-14 | 6-9-17 | 8-13-19 | | 10-15-22 | 13-17-24 | 14-18-26 | 16-19-28 | 18-22-30 | 18-22-31 | | | | |
| 45° | 1-3-8 | 4-6-11 | 5-8-12 | | 7-10-14 | 8-11-15 | 9-12-16 | 10-12-18 | 11-13-18 | 12-14-20 | | | | |
| 18 x 6 | 14 x 8 28 x 4 30 x 4 | 0.65 | | CFM | | 130 | 195 | 260 | 325 | 390 | 455 | 520 | 585 | 650 |
| | | | | Noise Criteria | | — | — | 19 | 25 | 30 | 35 | 39 | 42 | 45 |
| | | | | Throw | 0° | 3-8-18 | 7-12-22 | 11-16-25 | 13-20-29 | 16-22-32 | 18-24-34 | 21-25-36 | 23-27-38 | 24-29-40 |
| 22 1/2° | 2-6-14 | 6-10-18 | 9-13-20 | | 10-16-23 | 13-18-26 | 14-19-27 | 17-20-29 | 18-22-30 | 19-23-32 | | | | |
| 45° | 1-3-9 | 4-6-11 | 6-8-13 | | 7-10-15 | 8-11-16 | 9-12-17 | 11-13-18 | 11-13-19 | 12-15-20 | | | | |
| 12 x 10 | 20 x 6 24 x 5 | 0.74 | | CFM | | 148 | 222 | 296 | 370 | 444 | 518 | 592 | 666 | 740 |
| | | | | Noise Criteria | | — | — | 18 | 25 | 30 | 35 | 39 | 42 | 45 |
| | | | | Throw | 0° | 4-8-19 | 8-13-24 | 11-17-27 | 14-21-31 | 17-24-33 | 20-26-36 | 22-27-39 | 24-29-41 | 25-31-43 |
| 22 1/2° | 3-6-15 | 6-10-19 | 9-14-22 | | 11-17-25 | 14-19-26 | 16-21-29 | 18-22-31 | 19-23-33 | 20-25-34 | | | | |
| 45° | 1-3-9 | 4-7-12 | 6-9-14 | | 7-11-16 | 9-12-17 | 10-13-18 | 11-14-20 | 11-14-20 | 13-16-22 | | | | |
| 22 x 6 | 16 x 8 28 x 5 36 x 4 | 0.80 | | CFM | | 160 | 240 | 320 | 400 | 480 | 560 | 640 | 720 | 800 |
| | | | | Noise Criteria | | — | — | 19 | 26 | 31 | 36 | 40 | 43 | 46 |
| | | | | Throw | 0° | 4-8-20 | 8-13-25 | 11-18-28 | 15-22-32 | 18-25-35 | 20-27-38 | 23-28-41 | 25-30-43 | 26-32-45 |
| 22 1/2° | 3-6-16 | 6-10-20 | 9-14-22 | | 12-18-26 | 14-20-28 | 16-22-30 | 18-22-33 | 20-24-34 | 21-26-36 | | | | |
| 45° | 1-3-10 | 4-7-13 | 6-9-14 | | 8-11-16 | 9-13-18 | 10-14-19 | 12-14-21 | 12-15-21 | 13-16-23 | | | | |
| 12 x 12 | 14 x 10 18 x 8 24 x 6 38 x 4 | 0.90 | | CFM | | 180 | 270 | 360 | 450 | 540 | 630 | 720 | 810 | 900 |
| | | | | Noise Criteria | | — | — | 19 | 26 | 31 | 36 | 40 | 43 | 46 |
| | | | | Throw | 0° | 4-9-21 | 9-14-26 | 12-18-29 | 15-23-33 | 18-26-36 | 21-27-39 | 24-29-42 | 26-31-45 | 27-33-47 |
| 22 1/2° | 3-7-17 | 7-11-21 | 10-14-23 | | 12-18-26 | 14-21-29 | 17-22-31 | 19-23-34 | 21-25-36 | 22-26-38 | | | | |
| 45° | 1-4-10 | 5-7-13 | 6-9-15 | | 8-12-17 | 9-13-18 | 11-14-20 | 12-15-21 | 13-15-22 | 14-17-24 | | | | |

For performance data notes, see F142.

PERFORMANCE DATA:

ALUMINUM HEAVY DUTY BAR GRILLES AND REGISTERS • 51D00-HD SERIES

MODELS: 51D30H-HD, 51D30V-HD, 51D15H-HD, 51D15V-HD, 51DFH-HD, 51DFV-HD

| Listed Duct Size (inches) | Alternate Sizes (inches) | Core Area (sq. ft.) | Ak Factor | Core Velocity | | 200 | 300 | 400 | 500 | 600 | 700 | 800 | 900 | 1000 |
|---------------------------|--|---------------------|-----------|-------------------|---------|---------|----------|----------|----------|----------|----------|----------|----------|----------|
| | | | | Velocity Pressure | | .003 | .006 | .010 | .016 | .022 | .031 | .040 | .051 | .062 |
| | | | | Total Pressure | 0° | .014 | .031 | .057 | .088 | .127 | .174 | .228 | .287 | .353 |
| 18 x 10 | 30 x 6 | 1.13 | | CFM | 0° | 226 | 339 | 452 | 565 | 678 | 791 | 904 | 1130 | 1130 |
| | | | | Noise Criteria | 22 1/2° | — | — | 20 | 27 | 32 | 37 | 41 | 44 | 47 |
| | | | | Throw | 45° | 4-10-23 | 9-15-29 | 14-20-33 | 17-25-36 | 20-29-40 | 24-30-43 | 27-33-46 | 28-34-48 | 30-36-51 |
| 14 x 14 | 16 x 12 20 x 10 24 x 8 34 x 6 | 1.24 | | CFM | 0° | 248 | 372 | 496 | 620 | 744 | 868 | 992 | 1116 | 1240 |
| | | | | Noise Criteria | 22 1/2° | — | — | 20 | 27 | 32 | 37 | 41 | 44 | 47 |
| | | | | Throw | 45° | 5-12-26 | 11-18-33 | 16-25-39 | 20-29-42 | 24-33-47 | 27-36-51 | 31-39-54 | 33-40-57 | 35-42-60 |
| 18 x 12 | 16 x 14 22 x 10 28 x 8 38 x 6 | 1.37 | | CFM | 0° | 274 | 411 | 548 | 685 | 822 | 959 | 1096 | 1233 | 1370 |
| | | | | Noise Criteria | 22 1/2° | — | — | 21 | 28 | 33 | 38 | 42 | 45 | 48 |
| | | | | Throw | 45° | 5-12-26 | 11-18-33 | 16-25-39 | 20-29-42 | 24-33-47 | 27-36-51 | 31-39-54 | 33-41-58 | 35-43-61 |
| 24 x 10 | 20 x 12 30 x 8 | 1.52 | | CFM | 0° | 304 | 456 | 608 | 760 | 912 | 1064 | 1216 | 1368 | 1520 |
| | | | | Noise Criteria | 22 1/2° | — | — | 21 | 28 | 33 | 38 | 42 | 45 | 48 |
| | | | | Throw | 45° | 6-12-28 | 12-19-35 | 16-25-41 | 21-32-45 | 25-35-50 | 29-38-53 | 34-41-57 | 35-43-61 | 37-45-64 |
| 16 x 16 | 18 x 14 22 x 12 30 x 8 | 1.64 | | CFM | 0° | 328 | 492 | 656 | 820 | 984 | 1148 | 1312 | 1476 | 1640 |
| | | | | Noise Criteria | 22 1/2° | — | — | 21 | 28 | 33 | 38 | 42 | 45 | 48 |
| | | | | Throw | 45° | 6-13-30 | 12-20-37 | 17-26-42 | 22-32-47 | 26-37-51 | 31-40-56 | 35-42-59 | 37-45-64 | 39-47-67 |
| 24 x 12 | 18 x 16 22 x 14 30 x 10 36 x 8 | 1.85 | | CFM | 0° | 370 | 555 | 740 | 925 | 1110 | 1295 | 1480 | 1665 | 1850 |
| | | | | Noise Criteria | 22 1/2° | — | 15 | 22 | 29 | 34 | 39 | 43 | 46 | 49 |
| | | | | Throw | 45° | 6-13-30 | 12-20-38 | 18-27-44 | 22-33-48 | 27-38-54 | 32-40-58 | 36-44-62 | 38-46-65 | 40-48-69 |
| 18 x 18 | 20 x 16 24 x 14 28 x 12 32 x 10 | 2.10 | | CFM | 0° | 420 | 630 | 840 | 1050 | 1260 | 1470 | 1680 | 1890 | 2100 |
| | | | | Noise Criteria | 22 1/2° | — | 15 | 22 | 29 | 34 | 39 | 43 | 46 | 49 |
| | | | | Throw | 45° | 6-14-32 | 13-21-40 | 19-29-47 | 24-36-52 | 29-40-57 | 33-43-62 | 38-47-66 | 40-49-70 | 42-52-74 |
| 30 x 12 | 20 x 18 22 x 16 26 x 14 36 x 10 | 2.32 | | CFM | 0° | 464 | 696 | 928 | 1160 | 1392 | 1624 | 1856 | 2088 | 2320 |
| | | | | Noise Criteria | 22 1/2° | — | 16 | 23 | 30 | 35 | 40 | 44 | 47 | 50 |
| | | | | Throw | 45° | 7-15-34 | 14-23-43 | 21-31-50 | 26-39-56 | 31-43-61 | 36-47-67 | 41-50-71 | 44-53-75 | 46-56-79 |
| 24 x 16 | 32 x 12 | 2.50 | | CFM | 0° | 500 | 750 | 1000 | 1250 | 1500 | 1750 | 2000 | 2250 | 2500 |
| | | | | Noise Criteria | 22 1/2° | — | 16 | 23 | 30 | 35 | 40 | 44 | 47 | 50 |
| | | | | Throw | 45° | 7-16-36 | 14-24-45 | 22-32-52 | 27-40-58 | 32-45-64 | 37-49-68 | 43-52-74 | 46-55-78 | 48-58-82 |
| 20 x 20 | 22 x 18 | 2.61 | | CFM | 0° | 522 | 783 | 1044 | 1305 | 1566 | 1827 | 2088 | 2349 | 2610 |
| | | | | Noise Criteria | 22 1/2° | — | 16 | 23 | 30 | 35 | 40 | 44 | 47 | 50 |
| | | | | Throw | 45° | 7-16-37 | 15-24-46 | 22-32-53 | 27-41-59 | 32-46-65 | 38-50-70 | 44-53-75 | 46-56-80 | 49-59-84 |
| 36 x 12 | 22 x 20 24 x 18 26 x 16 30 x 14 | 2.79 | | CFM | 0° | 558 | 837 | 1116 | 1395 | 1674 | 1953 | 2232 | 2511 | 2790 |
| | | | | Noise Criteria | 22 1/2° | — | 16 | 23 | 30 | 35 | 40 | 44 | 47 | 50 |
| | | | | Throw | 45° | 7-16-38 | 15-25-48 | 23-34-55 | 28-42-61 | 34-48-68 | 4-51-73 | 45-55-77 | 47-58-82 | 50-61-86 |
| 22 x 22 | 24 x 20 26 x 18 30 x 16 40 x 12 | 3.17 | | CFM | 0° | 634 | 951 | 1268 | 1585 | 1902 | 2219 | 2536 | 2853 | 3170 |
| | | | | Noise Criteria | 22 1/2° | — | 17 | 24 | 31 | 36 | 41 | 45 | 48 | 51 |
| | | | | Throw | 45° | 8-18-40 | 17-27-50 | 24-36-58 | 29-45-65 | 36-50-71 | 42-54-77 | 47-58-82 | 50-62-87 | 53-65-92 |

GRILLES AND REGISTERS

F

For performance data notes, see F142.

PERFORMANCE DATA:

ALUMINUM HEAVY DUTY BAR GRILLES AND REGISTERS • 51D00-HD SERIES

MODELS: 51D30H-HD, 51D30V-HD, 51D15H-HD, 51D15V-HD, 51DFH-HD, 51DFV-HD

| Listed Duct Size (inches) | Alternate Sizes (inches) | Core Area (sq. ft.) | Ak Factor | Core Velocity | | 200 | 300 | 400 | 500 | 600 | 700 | 800 | 900 | 1000 |
|---------------------------|--|---------------------|----------------------|----------------|----------|----------|----------|----------|-----------|-----------|-----------|-----------|-----------|------------|
| | | | | Velocity | Pressure | .003 | .006 | .010 | .016 | .022 | .031 | .040 | .051 | .062 |
| | | | | 0° | 22 1/2° | .014 | .031 | .057 | .088 | .127 | .174 | .228 | .287 | .353 |
| 42 x 12 | 36 x 14 | 3.27 | 1.68 1.56 1.44 | CFM | 0° | .016 | .037 | .064 | .101 | .146 | .199 | .261 | .330 | .408 |
| | | | | Noise Criteria | 45° | .025 | .057 | .099 | .154 | .220 | .304 | .400 | .503 | .620 |
| | | | | Throw | 0° | 8-18-41 | 17-27-51 | 24-36-59 | 30-45-66 | 36-51-72 | 42-55-77 | 48-59-83 | 50-63-88 | 53-66-93 |
| 30 x 18 | 24 x 22 34 x 16 40 x 14 | 3.54 | 1.81 1.68 1.56 | CFM | 0° | .016 | .037 | .064 | .101 | .146 | .199 | .261 | .330 | .408 |
| | | | | Noise Criteria | 45° | .025 | .057 | .099 | .154 | .220 | .304 | .400 | .503 | .620 |
| | | | | Throw | 0° | 9-18-42 | 18-28-53 | 25-37-61 | 31-47-69 | 37-53-75 | 44-57-81 | 50-61-86 | 53-65-92 | 56-69-97 |
| 24 x 24 | 26 x 22 28 x 20 32 x 18 36 x 16 | 3.79 | 1.93 1.80 1.66 | CFM | 0° | .016 | .037 | .064 | .101 | .146 | .199 | .261 | .330 | .408 |
| | | | | Noise Criteria | 45° | .025 | .057 | .099 | .154 | .220 | .304 | .400 | .503 | .620 |
| | | | | Throw | 0° | 9-19-44 | 18-29-55 | 26-39-62 | 33-48-70 | 39-55-77 | 45-59-83 | 51-62-89 | 54-66-94 | 57-70-99 |
| 36 x 18 | 32 x 20 40 x 16 46 x 14 | 4.29 | 2.18 2.03 1.87 | CFM | 0° | .016 | .037 | .064 | .101 | .146 | .199 | .261 | .330 | .408 |
| | | | | Noise Criteria | 45° | .025 | .057 | .099 | .154 | .220 | .304 | .400 | .503 | .620 |
| | | | | Throw | 0° | 9-20-46 | 19-31-58 | 28-42-68 | 35-52-75 | 42-58-83 | 48-63-89 | 55-68-95 | 58-71-101 | 61-75-106 |
| 26 x 26 | 28 x 24 48 x 14 | 4.47 | 2.25 2.10 1.93 | CFM | 0° | .016 | .037 | .064 | .101 | .146 | .199 | .261 | .330 | .408 |
| | | | | Noise Criteria | 45° | .025 | .057 | .099 | .154 | .220 | .304 | .400 | .503 | .620 |
| | | | | Throw | 0° | 9-21-47 | 19-32-59 | 28-43-69 | 35-53-77 | 43-59-85 | 49-65-91 | 56-69-98 | 60-73-103 | 63-77-109 |
| 30 x 24 | 32 x 22 36 x 20 40 x 18 | 4.77 | 2.42 2.25 2.08 | CFM | 0° | .016 | .037 | .064 | .101 | .146 | .199 | .261 | .330 | .408 |
| | | | | Noise Criteria | 45° | .025 | .057 | .099 | .154 | .220 | .304 | .400 | .503 | .620 |
| | | | | Throw | 0° | 10-22-49 | 20-33-61 | 29-44-71 | 36-54-79 | 44-61-87 | 51-67-94 | 58-71-101 | 62-75-106 | 65-79-112 |
| 28 x 28 | 30 x 26 36 x 22 40 x 20 | 5.20 | 2.66 2.48 2.29 | CFM | 0° | .016 | .037 | .064 | .101 | .146 | .199 | .261 | .330 | .408 |
| | | | | Noise Criteria | 45° | .025 | .057 | .099 | .154 | .220 | .304 | .400 | .503 | .620 |
| | | | | Throw | 0° | 10-22-50 | 21-34-63 | 30-45-74 | 38-56-82 | 45-63-90 | 53-69-97 | 60-74-104 | 64-78-110 | 67-82-116 |
| 36 x 24 | 40 x 22 44 x 20 | 5.74 | 2.91 2.71 2.50 | CFM | 0° | .016 | .037 | .064 | .101 | .146 | .199 | .261 | .330 | .408 |
| | | | | Noise Criteria | 45° | .025 | .057 | .099 | .154 | .220 | .304 | .400 | .503 | .620 |
| | | | | Throw | 0° | 11-24-54 | 23-36-68 | 32-49-78 | 41-60-88 | 49-68-96 | 57-74-104 | 64-78-112 | 68-84-118 | 72-88-124 |
| 42 x 24 | 36 x 28 42 x 24 46 x 22 | 6.72 | 3.40 3.16 2.31 | CFM | 0° | .016 | .037 | .064 | .101 | .146 | .199 | .261 | .330 | .408 |
| | | | | Noise Criteria | 45° | .025 | .057 | .099 | .154 | .220 | .304 | .400 | .503 | .620 |
| | | | | Throw | 0° | 12-26-58 | 24-39-72 | 34-51-83 | 43-64-93 | 51-72-102 | 60-78-111 | 68-84-118 | 73-88-125 | 77-93-132 |
| 36 x 30 | 38 x 28 | 7.22 | 3.64 3.39 3.13 | CFM | 0° | .016 | .037 | .064 | .101 | .146 | .199 | .261 | .330 | .408 |
| | | | | Noise Criteria | 45° | .025 | .057 | .099 | .154 | .220 | .304 | .400 | .503 | .620 |
| | | | | Throw | 0° | 12-26-61 | 25-40-76 | 36-54-87 | 45-68-98 | 54-76-108 | 63-82-116 | 71-87-124 | 76-93-132 | 80-98-139 |
| 48 x 24 | 34 x 34 36 x 32 38 x 30 42 x 28 | 7.69 | 3.88 3.61 3.34 | CFM | 0° | .016 | .037 | .064 | .101 | .146 | .199 | .261 | .330 | .408 |
| | | | | Noise Criteria | 45° | .025 | .057 | .099 | .154 | .220 | .304 | .400 | .503 | .620 |
| | | | | Throw | 0° | 13-27-62 | 26-41-77 | 37-55-90 | 46-69-100 | 55-77-109 | 64-84-118 | 73-90-127 | 78-95-135 | 82-200-142 |

Performance Notes:

- Performance data is based on Models 51DFH-HD and 51DFV-HD with 0° deflection front blades. For 15° and 30° deflection models, use: —
- Tabulated data includes OBD (damper). Without OBD, multiply Total Pressure (TP) by 0.8. Subtract 4 NC from the NC value given.

- Throws are given at 150, 100 and 50 fpm terminal velocities under isothermal conditions.
- Noise Criteria values were obtained using a 0° horizontal deflection near blade setting. For deflection settings of 22 1/2° and 45°, add 2 and 7 Noise Criteria (NC) to the tabulated NC level respectively.

- Data derived from tests conducted with ANSI/ASHRAE Standard 70 – 2023.

Correction Factor

| Model | Deflection | TP | NC |
|-------|------------|-------|-----|
| 51D15 | 15° | x 1.2 | + 3 |
| 51D30 | 30° | x 1.5 | + 7 |