

RETURN AIR

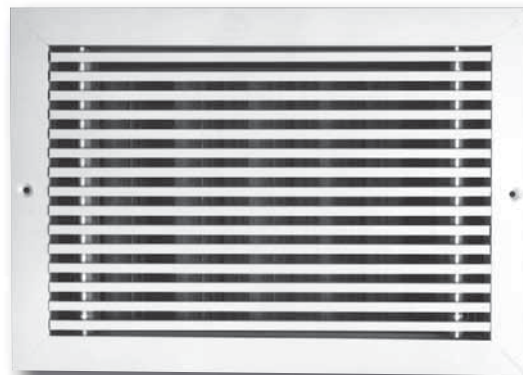
FIXED BARS

This return air grille has extruded aluminum fixed blades that are reinforced for strength.

Models 5130H-HD, 5130V-HD, 51FH-HD, 51FV-HD Page F144

Suffix '-O' adds a steel OBD

Suffix '-OA' adds an aluminum OBD



Model 5130H-HD

HEAVY DUTY STEEL GRILLES AND REGISTERS, GYMNASIUM STRENGTH

Nailor's Heavy Duty Steel Grilles and Registers are manufactured with 16 gauge steel frames and 14 gauge steel blades which gives them strength to stand up to abuse and high impacts that occur in schools, gymnasiums and other comparable applications.

SUPPLY AIR



Model 61SH-HD

ADJUSTABLE BLADES

The supply air grilles are offered with both single and double deflection blades. The adjustability of the blade is 0° — 40° deflection and they are spaced on 1/2" (13) centers. The double deflection rear blades are spaced on 3/4" (19) centers.

Double Deflection – Models 61DV-HD, 61DH-HD Page F150

Suffix '-O' adds a steel OBD

Single Deflection – Models 61SV-HD, 61SH-HD Page F150

Suffix '-O' adds a steel OBD

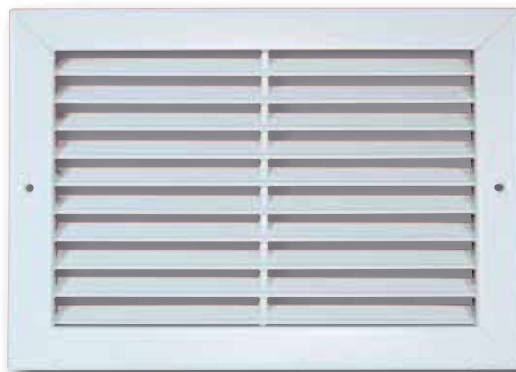
RETURN AIR

FIXED BLADES

Heavy gauge frame and blades and all welded construction make this series of grilles and registers extremely durable. These models are perfect for locations that require strong impact resistance. The blades are spaced on 1/2" (13) centers.

Models 6145H-HD, 6145V-HD, 61FH-HD, 61FV-HD Page F158

Suffix '-O' adds a steel OBD



Model 6145H-HD

EXCLUSIVE WARRANTY FOR NAILOR STEEL GRILLES, REGISTERS AND DIFFUSERS

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

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

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

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

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

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

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

STEEL HEAVY DUTY RETURN GRILLES AND REGISTERS

- GYMNASIUM
- LOUVERED

Models:

- 6145H-HD 45° Deflection Horizontal Blades
- 6145V-HD 45° Deflection Vertical Blades
- 61FH-HD 0° Deflection Horizontal Blades
- 61FV-HD 0° Deflection Vertical Blades

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



Model 6145H-HD

Nailor Model Series 6100-HD Heavy Duty Return Grilles and Registers are designed to combine heavy duty steel construction and pleasing architectural design. They are constructed to offer the strength and durability required to withstand abuse in applications such as schools, gymnasiums, stairwells, hotels and other locations requiring strong impact resistance.

Heavy duty 14 gauge blades on 1/2" (13) centers are available with either a 45° or 0° fixed deflection setting. Blades are individually welded in position and are supported on maximum 6" (152) centers with heavy duty concealed support mullions for added strength, which are in turn welded to the grille frame. Frames are manufactured from 16 gauge steel and include reinforced mitered corners and welded construction.

STANDARD FEATURES:

- 1 1/4" (32) wide face border with a 1" (25) overlap margin is standard, furnished with countersunk screw holes and mounting screws.
- Available in sizes from 6" x 4" to 48" x 48" (152 x 102 to 1219 x 1219) in single section construction.

CONSTRUCTION MATERIAL:

- Fixed 14 gauge steel blades on 1/2" (13) centers are available in 0° or 45° deflection.
- Heavy duty 16 gauge steel frame with welded and reinforced mitered corners.
- Optional steel opposed blade damper has a screwdriver slot operator for adjustment through the face of the register.

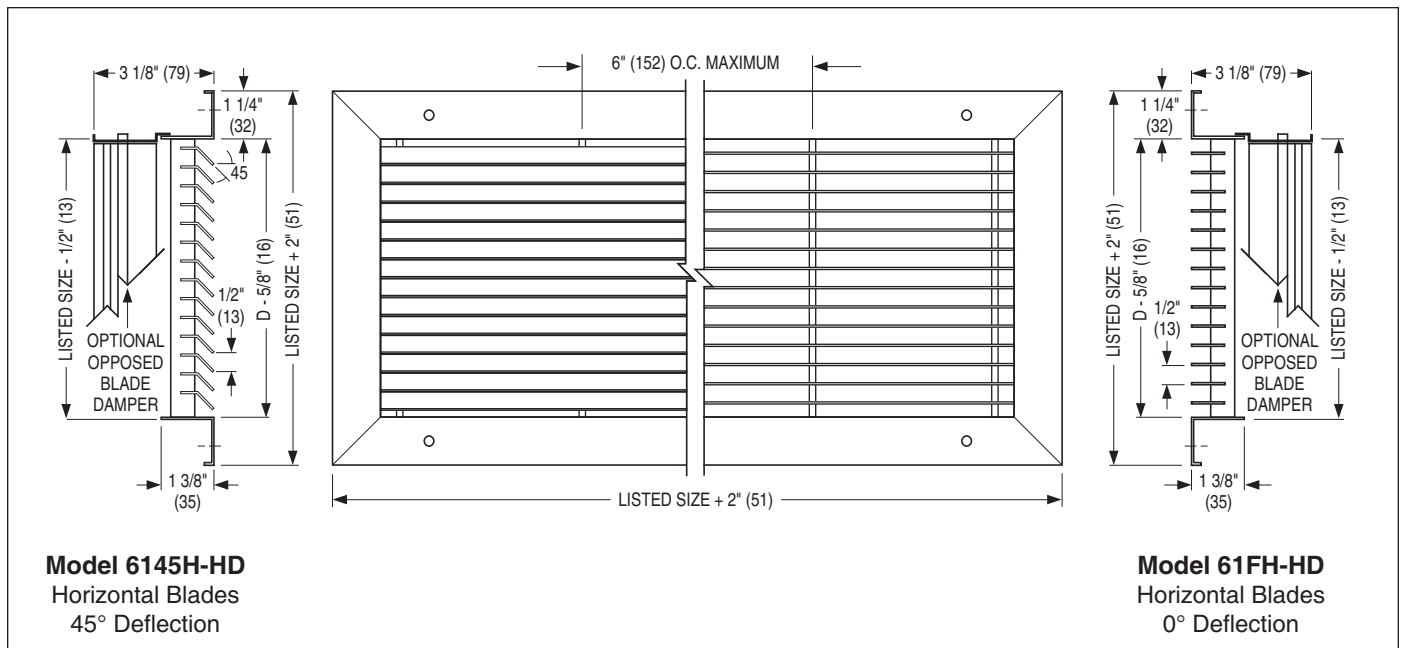
FINISH OPTIONS:

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

OPTIONS AND ACCESSORIES:

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

For additional options and accessories, see page F191.



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 |

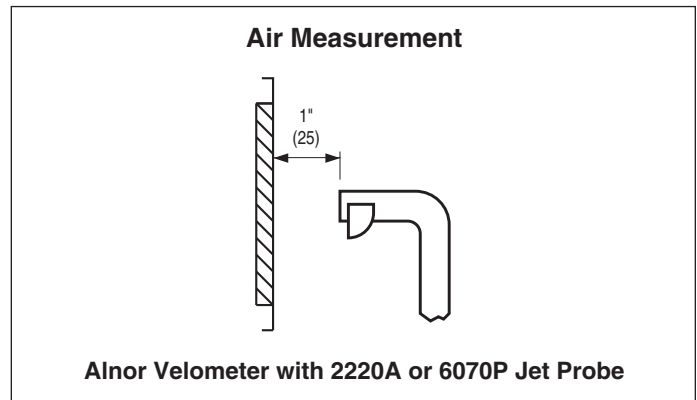
Performance Notes:

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 30 x 4 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 20 x 6 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 24 x 6 18 x 8 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 24 x 8 20 x 10 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 28 x 8 20 x 10 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 30 x 8 22 x 12 | 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 30 x 10 20 x 14 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 28 x 12 24 x 14 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 26 x 14 22 x 16 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 30 x 14 26 x 16 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 30 x 16 26 x 18 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 40 x 14 34 x 16 | 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 32 x 18 28 x 20 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 46 x 14 40 x 16 | 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 36 x 20 32 x 22 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 40 x 20 36 x 22 | 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 44 x 20 40 x 22 | 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 48 x 20 38 x 24 | 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:

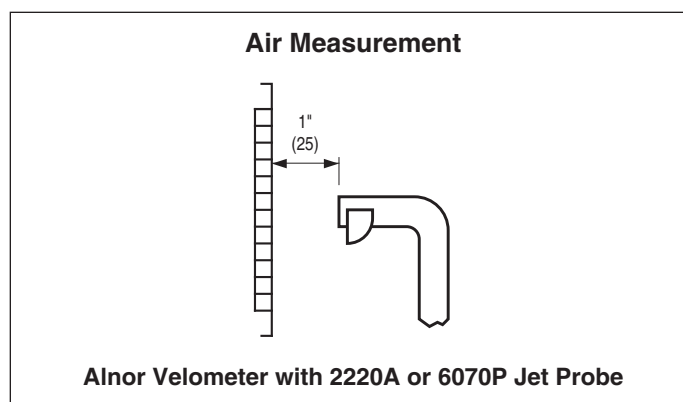
1. All pressures are in inches w.g..
2. Core Velocity is in feet per minute.
3. Performance data is for grille with opposed blade damper. Apply the following correction factors for grille without damper.

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.

HOW TO ORDER

MODEL SERIES: 6100-HD

STEEL HEAVY DUTY RETURN GRILLES AND REGISTERS – GYMNASIUM

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

- | | | |
|---|---|---|
| <p>1. Models Horizontal/Long Dimension Blades: 6145H-HD Fixed 45° Deflection 61FH-HD Fixed 0° Deflection Vertical/Short Dimension Blades: 6145V-HD Fixed 45° Deflection 61FV-HD Fixed 0° Deflection</p> <p>2. Damper (OBD) O Steel — No Damper</p> <p>3. Nominal Width x Height inches (mm)</p> <p>4. Frame/Border Type S Surface Mount (default)</p> | <p>5. Finish AW Appliance White (default) AL Aluminum BK Black BW British White LBP Light Bronze Paint MBP Medium Bronze Paint DBP Dark Bronze Paint MI Mill PC Prime Coat SP Special Custom Color</p> <p>6. Opposed Blade Damper Finish DMI Mill (default) DBK Painted Black</p> <p>7. Fastening A Screw Holes (default) N None</p> | <p>OPTIONS & ACCESSORIES: — None (default)</p> <p>8. Plaster Sub-Frame PF Plaster Sub-Frame</p> <p>9. Insect Screen IS Insect Screen</p> <p>10. Gaskets GK Foam Gasket</p> <p>11. Earthquake Tabs EQT Earthquake Tabs</p> <p>Notes: 1. For a standard grille with no special requirements, specification is only required as far as the damper selection. The "default" will automatically be selected. For example, a steel 45° deflection register, horizontal blade orientation and steel damper, is Model 6145H-HD-O. Unit will be supplied with screw holes and AW Appliance White finish. 2. The larger dimension must always be specified first; for example, 24" x 12" (610 x 305), not 12" x 24" (305 x 610).</p> |
|---|---|---|

GRILLES AND REGISTERS

F

HOW TO SPECIFY

MODEL SERIES: 6100-HD

STEEL HEAVY DUTY RETURN GRILLES AND REGISTERS – GYMNASIUM

SUGGESTED SPECIFICATION:

Furnish and install **Nailor Model** (select one) **6145H-HD, 6145V-HD, 61FH-HD** or **61FV-HD Steel Heavy Duty Return Grilles** of the types and sizes as shown on the plans and air distribution schedules. The grilles shall have fixed 14 gauge steel blades spaced on 1/2" (13) centers and a heavy duty 16 gauge steel welded frame. The finish shall be AW Appliance White (optional finishes are available).

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

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

PRODUCT OVERVIEW OPTIONS AND ACCESSORIES FOR GRILLES AND REGISTERS

MOUNTING FRAMES

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

OPTIONS

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

FINISHES

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

AIR BALANCING DEVICES

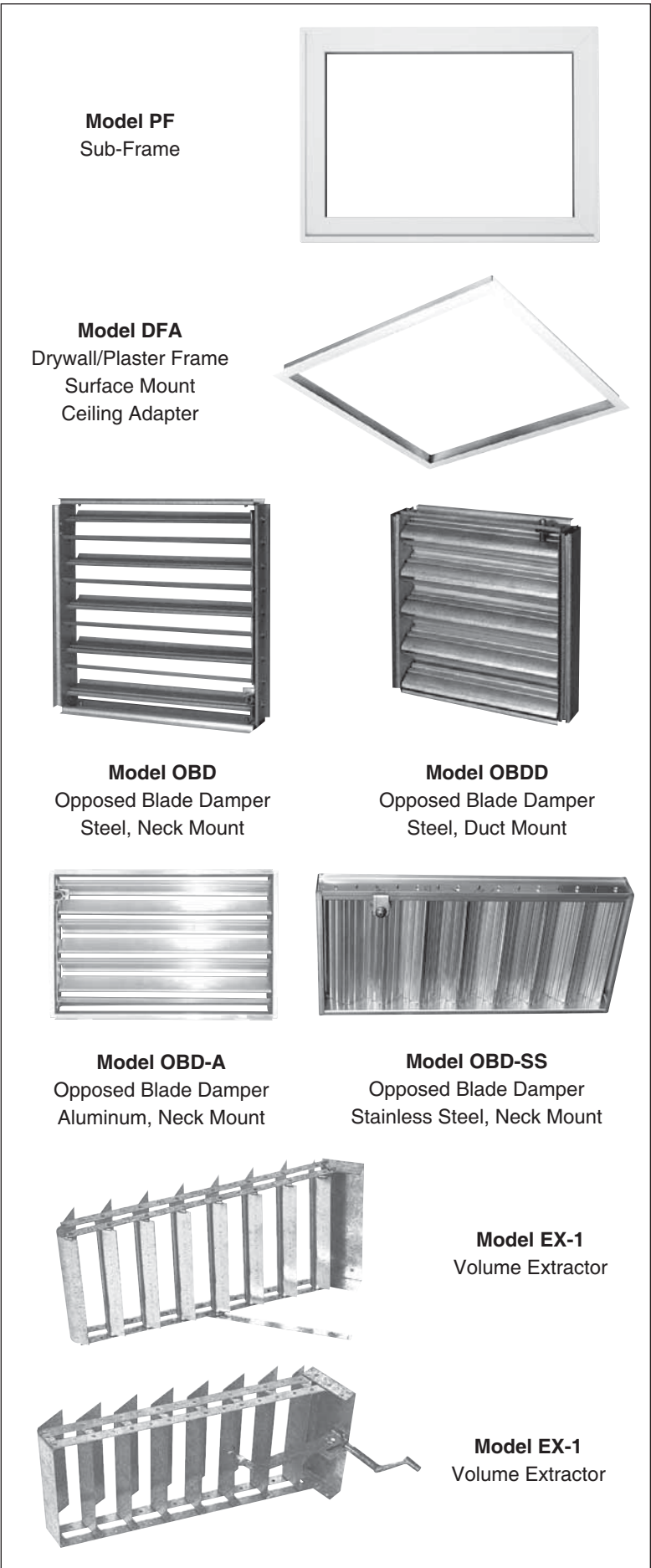
- Opposed blade dampers for every application.
- Volume extractors.

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

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

Nailor balancing devices are:

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

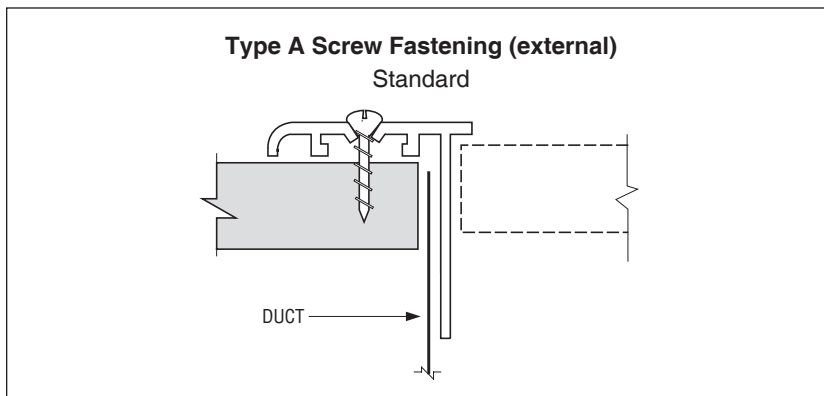


Fastening and Border Frames

Type A Screw Fastening (External)

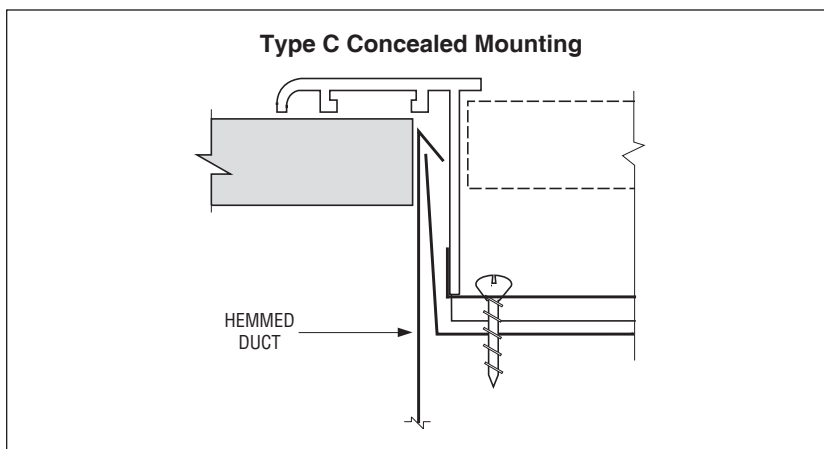
Standard method of fastening for all Nailor grilles and registers in surface mount applications. All Nailor grilles and registers are supplied this way unless specified otherwise. Universal application for all models and cost effective installation.

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



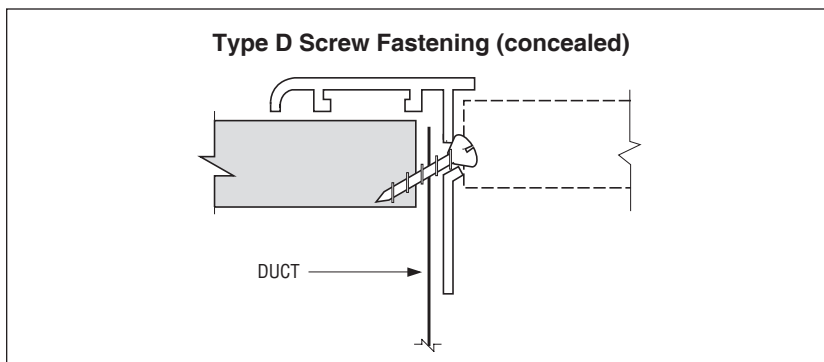
Type C Concealed Mounting

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



Type D Screw Fastening (Concealed)

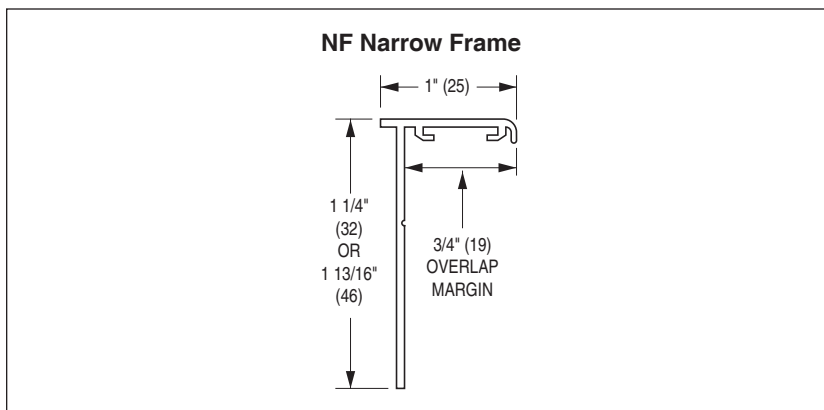
Screw holes are provided in the neck of the grille or register frame. Screws are field installed at an angle through the grille frame and into the ductwork, providing a clean frame appearance. Installation is more difficult than Type A due to the space constriction between the grille blades. Care must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



Type NF Narrow Frame

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

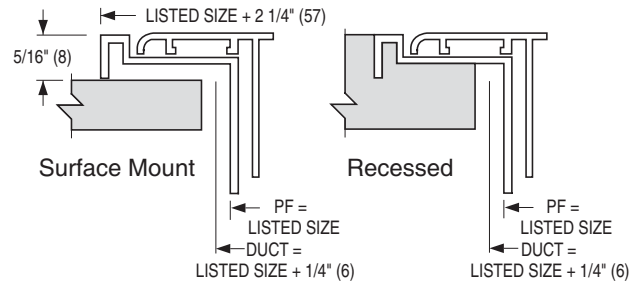
See individual models for availability.



Mounting Frames

PF Plaster/Mounting Frame

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



Model PF Plaster Frame

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

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

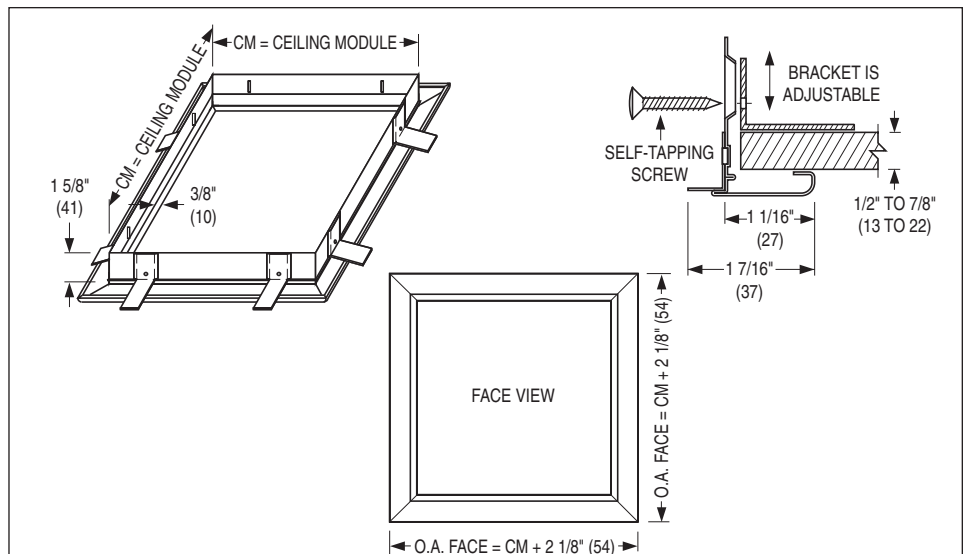
The DF Series simplifies and reduces installation time compared with surface mount type diffusers. This is especially true where flexible duct is utilized. A major benefit is that the DF Series allows access to the ceiling plenum space above for maintenance purposes without the need for separate access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

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

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

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

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

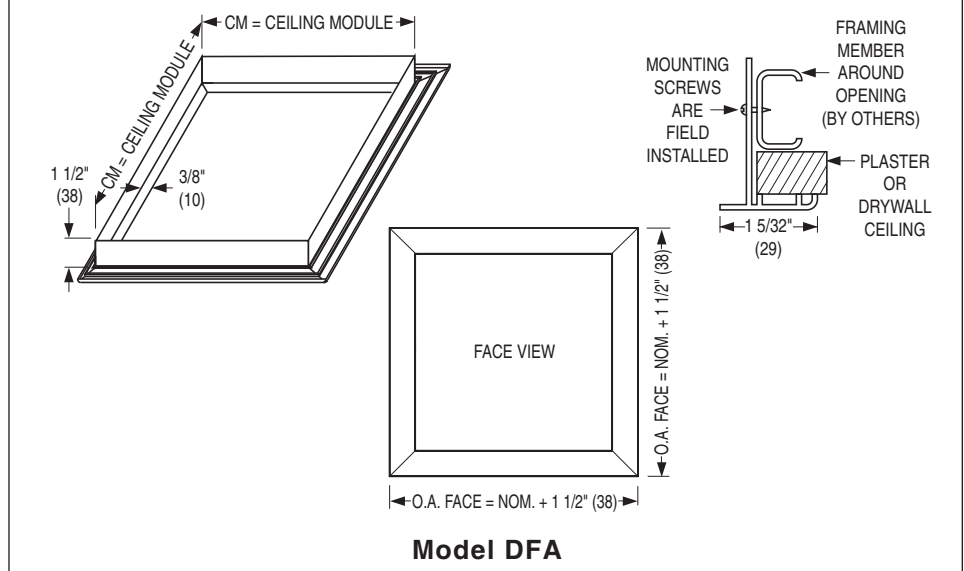


Model DFS

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

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

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



Model DFA

Panel Mounting/Ceiling Modules

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

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

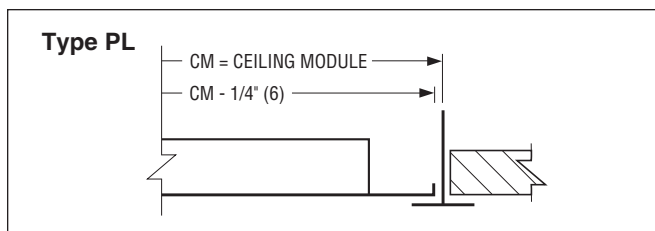
The maximum grille neck sizes available for panel mounting will be the ceiling module size selected - 3" (76).

Available Ceiling Module Sizes

| Ceiling Module | |
|----------------------|-------------------|
| Imperial Units (in.) | Metric Units (mm) |
| 12 x 12 | 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 |

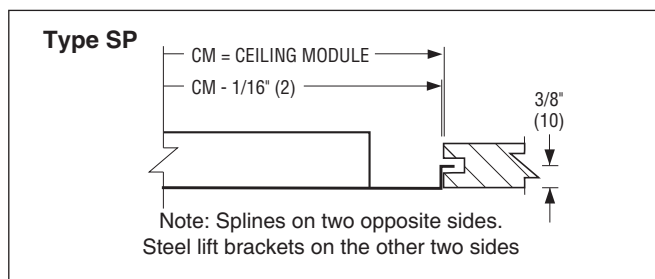
Border Type PL: Lay-in T-Bar

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



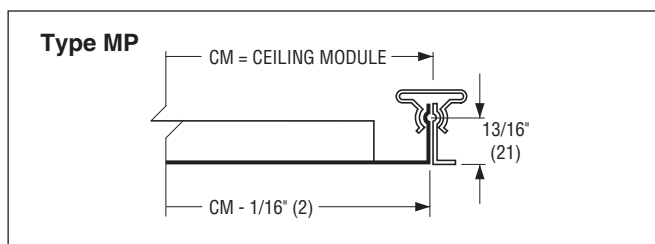
Border Type SP: Spline

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



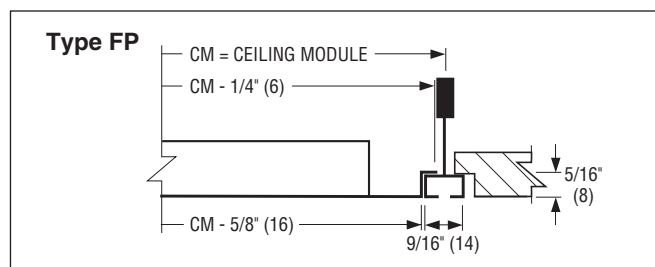
Border Type MP: Metal Pan/Snap-in

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



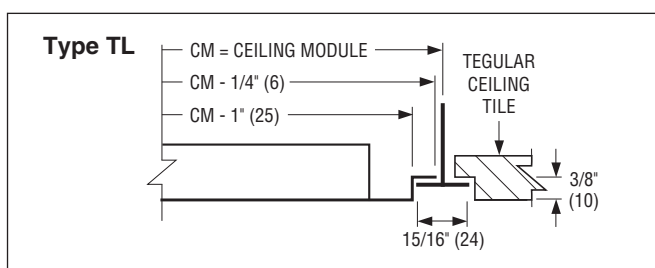
Border Type FP: Narrow Regressed T-Bar (Fineline®)

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



Border Type TL: Tegular Type T-Bar

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



Options, Custom Sizing and Finishes

OPTIONS:

RACA Return Air Crosstalk Attenuator

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

EQT Earthquake Tabs

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

GK Foam Gaskets

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

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

IS Insect Screen

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

CUSTOM SIZING:

Oversized Units

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

Fractional/Hard Metric Sizes

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

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

Consult your Nailor representative for availability on specific project applications.

FINISHES:

POWDER COAT

AW Appliance White (standard)

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

AL Aluminum

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

WH Off-White

Has a creamy appearance. (Additional cost)

BW British White

Matches most white ceiling tiles. (No additional cost)

LBP Light Bronze Paint

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

MBP Medium Bronze Paint

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

DBP Dark Bronze Paint

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

BK Black

This black has a matte finish. (Additional cost)

SP Special

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

ALUMINUM PRODUCT FINISHES:

SA Satin (Clear) Anodized

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

STAINLESS STEEL PRODUCT FINISH ONLY:

#4 Brushed Satin Polished

Stainless Steel models only. (No additional cost)

ALSO AVAILABLE:

MI Mill Finish

(No additional cost).

PPA Paint Prepared Aluminum (Washed only)

(No additional cost).

PC Prime Coat Paint

Color will vary (Additional cost).

Sound Reduction for Return Air Grilles

RETURN AIR CROSSTALK ATTENUATOR – STEEL – RETURN AIR GRILLES

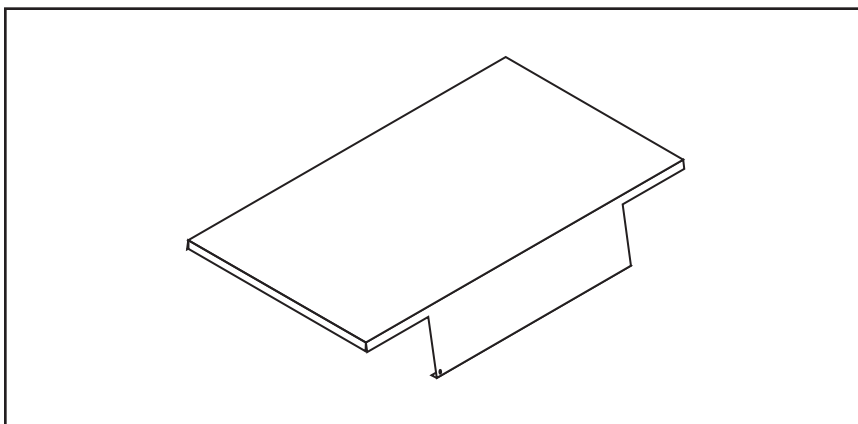
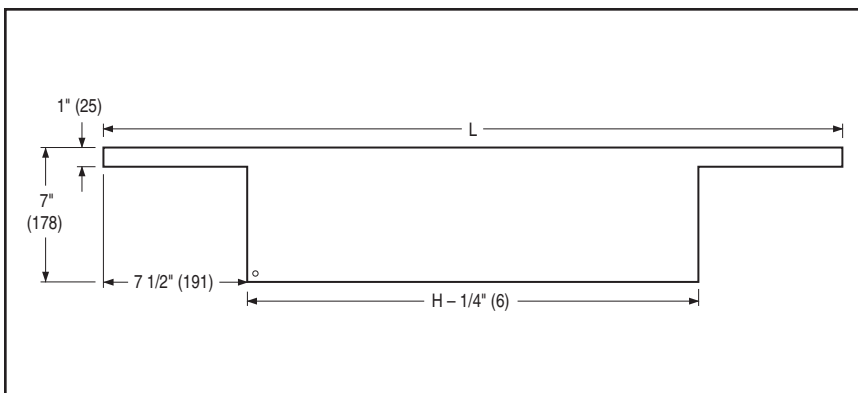
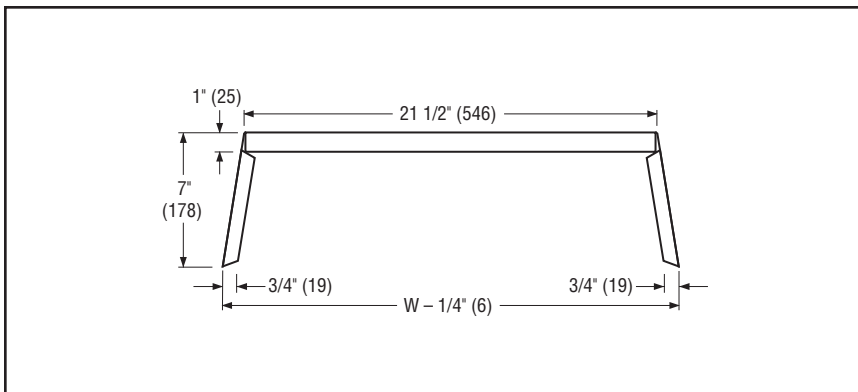
Nailor Model RACA Return Air Crosstalk Attenuator is designed to greatly reduce the amount of sound transferred from the return air plenum through open vents or return grilles, into the adjoining space. For use with non-ducted return grilles in Lay-in T-Bar applications, the RACA allows return air to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

FEATURES:

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

DIMENSIONAL DATA:

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



Air Balancing Devices

OPPOSED BLADE DAMPERS — STEEL AND ALUMINUM

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

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

GRILLE MOUNT MODELS:

OBD Steel

OBD-A Aluminum

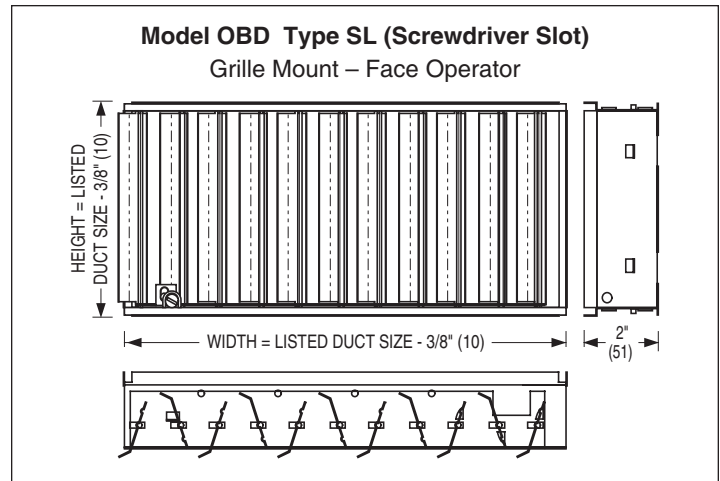
This style of damper mounts directly on the neck of the grille and is sized to fit most Nailor grilles. Uses steel barbed S-clips for easy field mounting or removal when ordered separately. Supplied as standard with a screwdriver slot operator (Type SL) on supply registers and a screwdriver pivot lever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

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

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

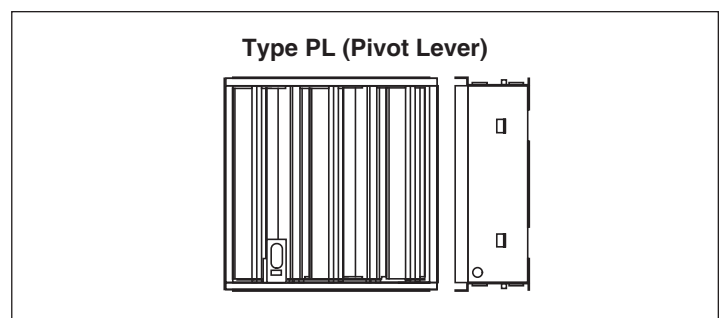
Type SL Operator

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



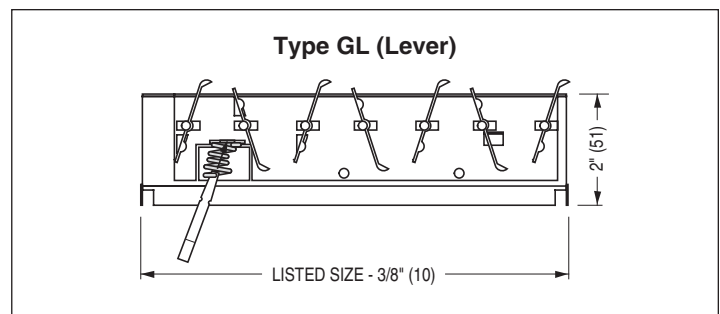
Type PL Operator

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



Type GL Operator

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



Air Balancing Devices

DUCT MOUNT MODELS:

OBDD Steel

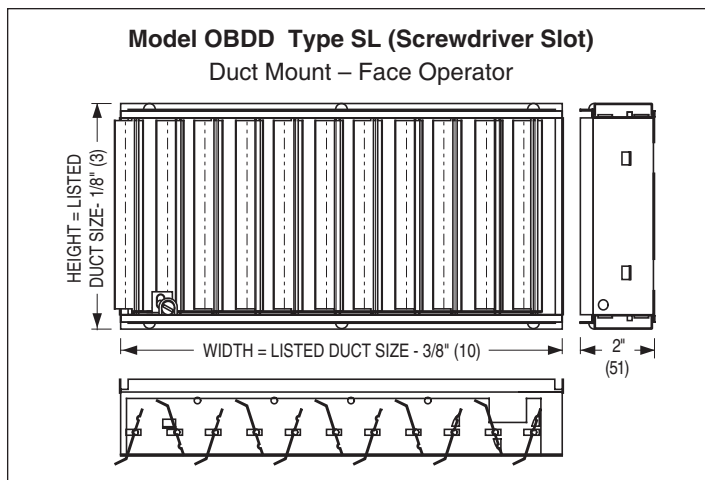
OBDD-A Aluminum

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

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

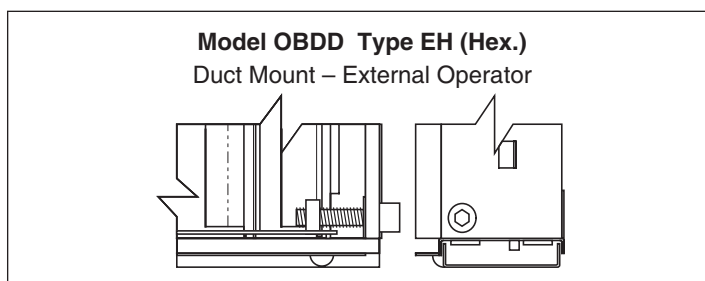
Type SL Operator

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



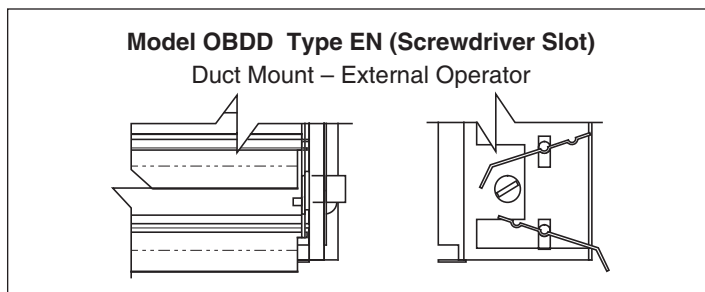
Type EH Operator

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



Type EN Operator

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



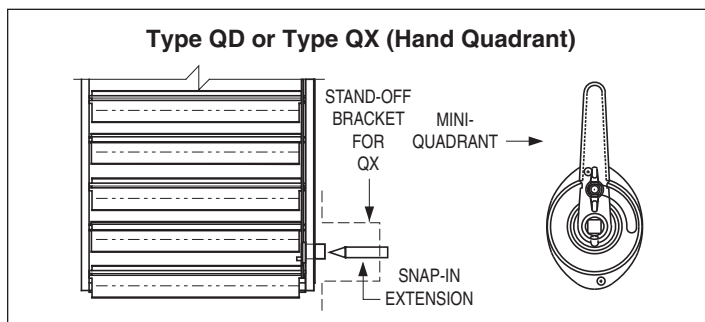
Type QD Operator *

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

Type QX Operator *

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

*Not available on Model OBDD-A



Air Balancing Devices

OPPOSED BLADE DAMPERS — STAINLESS STEEL

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

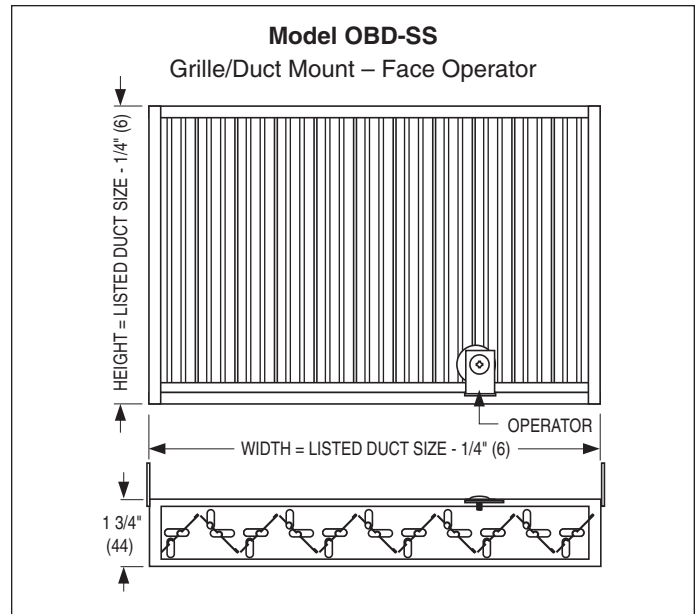
The gang operated multi-blade design with blades closing at 45 degrees permits fine volume control for accurate balancing with minimum disturbance to the airflow pattern. Blades are individually pivoted on 1" (25) centers.

GRILLE/DUCT MOUNT MODELS:

OBD-SS Stainless Steel

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

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



Volume Extractors

MODEL SERIES

EX Blades on 2" centers

EXD Blades on 1" centers

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

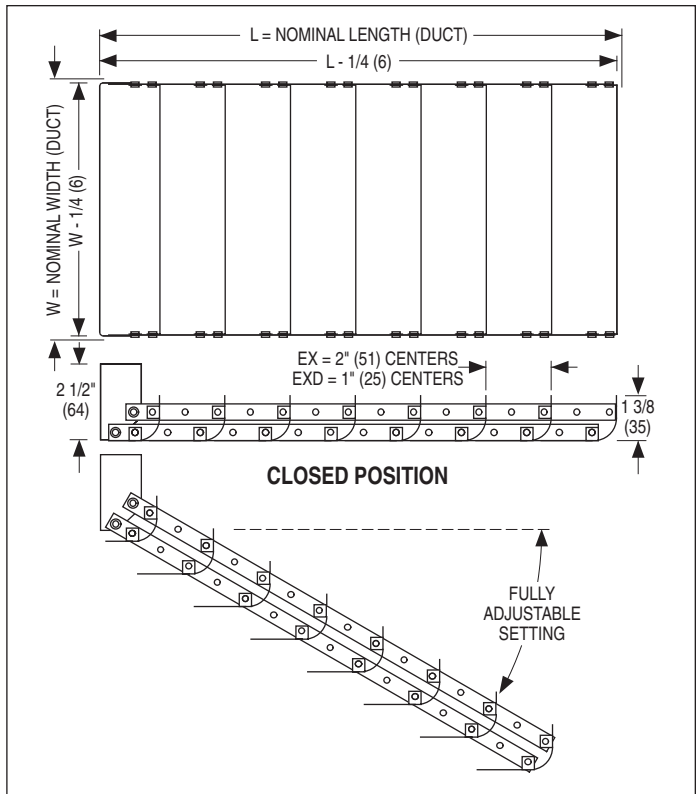
Specify or order: Length x Width. (Length is first dimension. Blades are parallel to width, second dimension).

FEATURES:

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

Operator Types

| | |
|--|--|
| <p>EX/EXD-1 Standard unit with adjusting strap.</p> | |
| <p>EX/EXD-1-R Rod operator for external operation.</p> | |
| <p>EX/EXD-2 Linkage with 7/16" (11) square hole (2 per unit). Remote operator (eg. Young Regulator #1) by others.</p> | |
| <p>EX/EXD-3 Screw gear operator. Adjusts with 3/16" (48) wrench (by others).</p> | |



Optional Accessories

| | |
|--|--|
| <p>RLD Locking device for Models EX/EXD-1-R.</p> | |
|--|--|