

### Application:

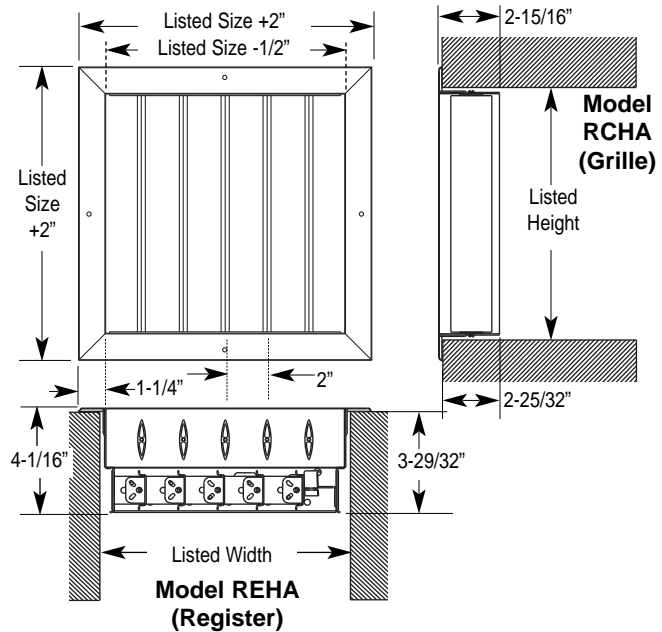
This model serves well in any area where the air volume is large, and a durable single deflection supply unit is called for.

### Standard Features:

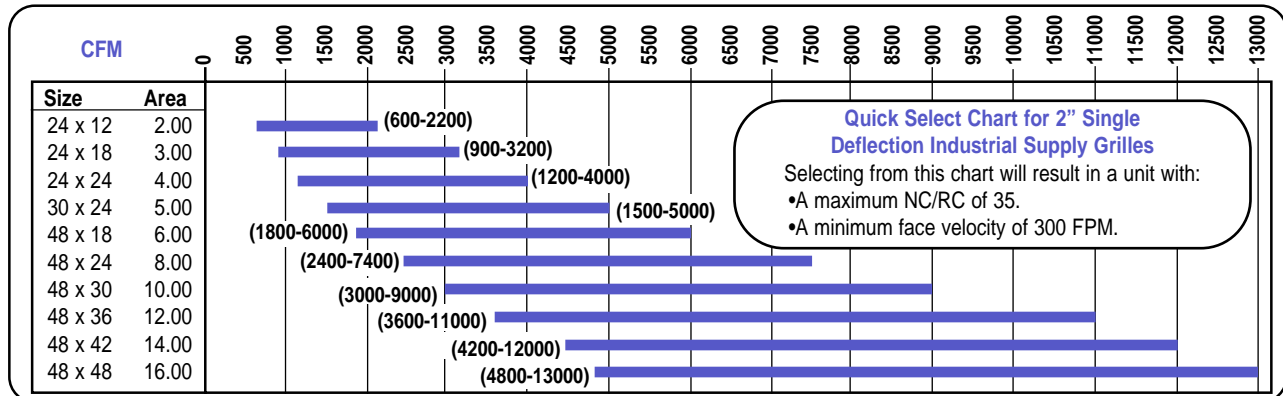
- Construction is of extruded aluminum blades with 20 gauge steel frame.
- Single deflection design.
- Blades are 2" deep, on 2" centers, and can be aligned horizontally or vertically.
- Blades are airfoil shape, and are individually adjustable for fine tuning of throw, blow pattern or spread.
- Polyurethane foam gasket at edge of frame.
- Standard color is #11 bright white. Other colors are available on request.
- Standard finish is electrocoat acrylic baked enamel. Other finishes are available on request.
- Register model REH uses the model RXEA opposed blade damper (p. A437).

### Optional Features:

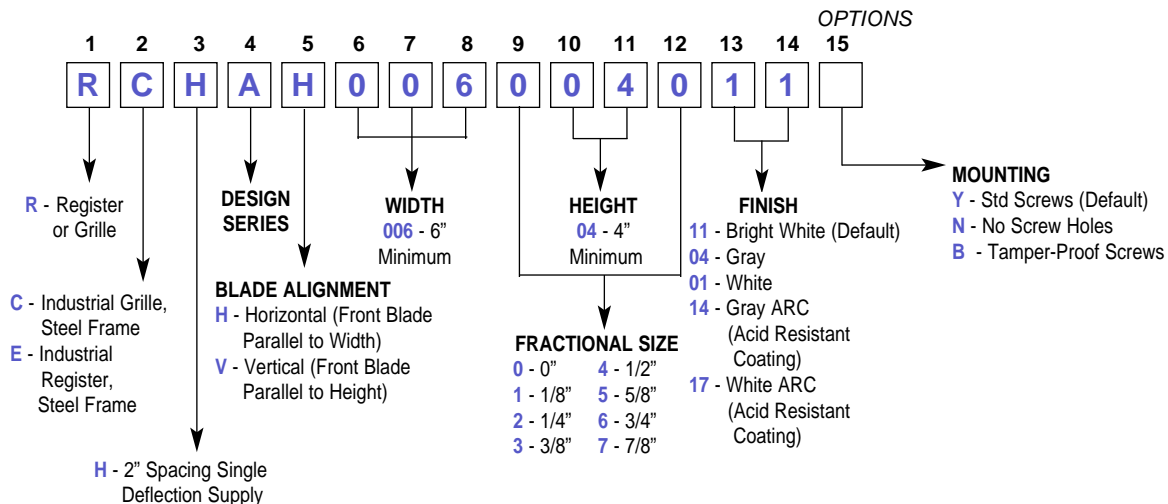
- "No screw holes" can be specified for custom installations.
- Fusible link (p. A343).
- Holt-head #8 x 1-1/2" screws (Opt. B) can be specified to minimize tampering.



Heavy Duty Registers & Grilles



### Model Numbering System (Single Deflection Supply, 2" Spacing Industrial R&G)



| Duct Velocity                   |               | 300   | 400        | 500        | 600        | 700        | 800        | 1000        | 1200        | 1400        | 1600        |             |
|---------------------------------|---------------|-------|------------|------------|------------|------------|------------|-------------|-------------|-------------|-------------|-------------|
| Velocity                        | Press.        | 0.006 | 0.010      | 0.016      | 0.022      | 0.031      | 0.040      | 0.062       | 0.090       | 0.122       | 0.160       |             |
| <b>Nom. Size</b><br>(in.)       | <b>Total</b>  | 0°    | 0.008      | 0.014      | 0.022      | 0.032      | 0.045      | 0.058       | 0.091       | 0.131       | 0.182       | 0.238       |
|                                 | <b>Press.</b> | 22.5° | 0.010      | 0.019      | 0.029      | 0.043      | 0.058      | 0.077       | 0.119       | 0.172       | 0.236       | 0.307       |
|                                 |               | 45°   | 0.016      | 0.028      | 0.044      | 0.064      | 0.087      | 0.114       | 0.177       | 0.252       | 0.348       | 0.454       |
| <b>Flow (CFM)</b>               |               |       | <b>75</b>  | <b>100</b> | <b>125</b> | <b>150</b> | <b>175</b> | <b>200</b>  | <b>250</b>  | <b>300</b>  | <b>350</b>  | <b>400</b>  |
| 6 x 6<br>25 ft <sup>2</sup>     | 0°            | Throw | 6-10-15    | 8-12-18    | 10-14-20   | 11-15-22   | 12-17-24   | 13-18-25    | 15-20-28    | 16-22-31    | 17-23-33    | 19-25-35    |
|                                 |               | Sound | --- / ---  | --- / ---  | --- / ---  | --- / ---  | --- / ---  | --- / ---   | --- / ---   | 10/10H      | 14/14N      | 21/18N      |
|                                 | 22.5°         | Throw | 5-8-12     | 6-10-14    | 8-11-16    | 9-12-18    | 10-14-19   | 10-14-20    | 12-16-22    | 13-18-25    | 14-18-26    | 15-20-28    |
|                                 |               | Sound | 21 / ---   | --- / ---  | --- / ---  | --- / ---  | 10/10H     | 14/16H      | 21/23H      | 26/27N      | 29/30N      | 33/33N      |
|                                 | 45°           | Throw | 3-5-7      | 4-6-9      | 5-7-10     | 5-7-11     | 6-8-12     | 6-9-12      | 7-10-13     | 8-11-15     | 8-11-16     | 9-12-17     |
|                                 |               | Sound | --- / ---  | --- / ---  | --- / ---  | 13/15H     | 16/18H     | 20/22H      | 28/30N      | 33/33N      | 38/38N      | 43/43N      |
| <b>Flow (CFM)</b>               |               |       | <b>100</b> | <b>133</b> | <b>167</b> | <b>200</b> | <b>233</b> | <b>267</b>  | <b>333</b>  | <b>400</b>  | <b>467</b>  | <b>533</b>  |
| 8 x 6<br>33 ft <sup>2</sup>     | 0°            | Throw | 7-11-18    | 9-15-21    | 11-16-23   | 12-18-25   | 14-19-27   | 15-21-29    | 17-23-33    | 19-26-36    | 20-27-39    | 22-29-41    |
|                                 |               | Sound | --- / ---  | --- / ---  | --- / ---  | --- / ---  | --- / ---  | --- / ---   | --- / ---   | 14/14H      | 19/19N      | 25/22N      |
|                                 | 22.5°         | Throw | 6-9-14     | 7-12-17    | 9-13-18    | 10-14-20   | 11-15-22   | 12-17-23    | 14-18-26    | 15-21-29    | 16-22-31    | 18-23-33    |
|                                 |               | Sound | --- / ---  | --- / ---  | --- / ---  | --- / ---  | 12/12H     | 16/18H      | 24/26H      | 30/31N      | 33/34N      | 38/38N      |
|                                 | 45°           | Throw | 3-5-9      | 4-7-10     | 5-8-11     | 6-9-12     | 7-9-13     | 7-10-14     | 8-11-16     | 9-12-17     | 10-13-19    | 11-14-20    |
|                                 |               | Sound | --- / ---  | --- / ---  | 10/12H     | 16/18H     | 20/22H     | 24/26N      | 32/34N      | 37/37N      | 42/42N      | 46/46N      |
| <b>Flow (CFM)</b>               |               |       | <b>125</b> | <b>167</b> | <b>208</b> | <b>250</b> | <b>292</b> | <b>333</b>  | <b>417</b>  | <b>500</b>  | <b>583</b>  | <b>667</b>  |
| 10 x 6<br>42 ft <sup>2</sup>    | 0°            | Throw | 8-13-20    | 10-16-23   | 13-18-26   | 15-20-29   | 16-22-31   | 17-23-33    | 19-26-37    | 21-29-40    | 23-30-43    | 25-33-46    |
|                                 |               | Sound | --- / ---  | --- / ---  | --- / ---  | --- / ---  | --- / ---  | 10/10H      | 17/17H      | 23/23N      | 29/26N      | 33/30N      |
|                                 | 22.5°         | Throw | 6-10-16    | 8-13-18    | 10-14-21   | 12-16-23   | 13-18-25   | 14-18-26    | 15-21-30    | 17-23-32    | 18-24-34    | 20-26-37    |
|                                 |               | Sound | --- / ---  | --- / ---  | --- / ---  | 11/11H     | 14/14H     | 19/21H      | 27/29H      | 33/34N      | 36/37N      | 40/40N      |
|                                 | 45°           | Throw | 4-6-10     | 5-8-11     | 6-9-12     | 7-10-14    | 8-11-15    | 8-11-16     | 9-12-18     | 10-14-19    | 11-14-21    | 12-16-22    |
|                                 |               | Sound | --- / ---  | --- / ---  | 13/15H     | 19/21H     | 23/25H     | 27/29N      | 36/38N      | 40/40N      | 45/45N      | 49/49N      |
| <b>Flow (CFM)</b>               |               |       | <b>150</b> | <b>200</b> | <b>250</b> | <b>300</b> | <b>350</b> | <b>400</b>  | <b>500</b>  | <b>600</b>  | <b>700</b>  | <b>800</b>  |
| 12 x 6<br>50 ft <sup>2</sup>    | 0°            | Throw | 8-14-22    | 11-18-25   | 14-20-28   | 16-22-31   | 18-24-34   | 19-25-36    | 21-28-40    | 23-31-44    | 25-33-47    | 27-36-50    |
|                                 |               | Sound | --- / ---  | --- / ---  | --- / ---  | --- / ---  | --- / ---  | 12/12H      | 19/19H      | 25/25N      | 31/28N      | 35/32N      |
|                                 | 22.5°         | Throw | 6-11-18    | 9-14-20    | 11-16-22   | 13-18-25   | 14-19-27   | 15-20-29    | 17-22-32    | 18-25-35    | 20-26-38    | 22-29-40    |
|                                 |               | Sound | --- / ---  | --- / ---  | --- / ---  | 12/12H     | 16/16H     | 21/23H      | 29/31H      | 35/36N      | 38/39N      | 42/42N      |
|                                 | 45°           | Throw | 4-7-11     | 5-9-12     | 7-10-13    | 8-11-15    | 9-12-16    | 9-12-17     | 10-13-19    | 11-15-21    | 12-16-23    | 13-17-24    |
|                                 |               | Sound | --- / ---  | 10/10H     | 16/18H     | 22/24H     | 26/28H     | 30/32N      | 38/40N      | 43/43N      | 47/47N      | 52/52N      |
| <b>Flow (CFM)</b>               |               |       | <b>200</b> | <b>267</b> | <b>333</b> | <b>400</b> | <b>467</b> | <b>533</b>  | <b>667</b>  | <b>800</b>  | <b>933</b>  | <b>1067</b> |
| 12 x 8<br>67 ft <sup>2</sup>    | 0°            | Throw | 10-16-25   | 13-21-29   | 16-23-33   | 19-25-36   | 21-27-39   | 22-29-42    | 24-33-46    | 27-36-51    | 29-39-55    | 31-41-58    |
|                                 |               | Sound | --- / ---  | --- / ---  | --- / ---  | --- / ---  | --- / ---  | 14/15H      | 21/23N      | 28/29N      | 34/34N      | 38/38N      |
|                                 | 22.5°         | Throw | 8-13-20    | 10-17-23   | 13-18-26   | 15-20-29   | 17-22-31   | 18-23-34    | 19-26-37    | 22-29-41    | 23-31-44    | 25-33-46    |
|                                 |               | Sound | --- / ---  | --- / ---  | --- / ---  | 14/15H     | 19/20H     | 24/25H      | 32/33H      | 37/37N      | 41/41N      | 45/45N      |
|                                 | 45°           | Throw | 5-8-12     | 6-10-14    | 8-11-16    | 9-12-17    | 10-13-19   | 11-15-21    | 12-16-22    | 13-17-24    | 14-19-26    | 15-20-28    |
|                                 |               | Sound | --- / ---  | 13 / ---   | 20/21H     | 26/26H     | 30/30H     | 34/34H      | 42/42N      | 46/46N      | 50/50N      | 55/55N      |
| <b>Flow (CFM)</b>               |               |       | <b>225</b> | <b>300</b> | <b>375</b> | <b>450</b> | <b>525</b> | <b>600</b>  | <b>750</b>  | <b>900</b>  | <b>1050</b> | <b>1200</b> |
| 18 x 6<br>75 ft <sup>2</sup>    | 0°            | Throw | 10-17-27   | 14-22-31   | 18-24-35   | 20-27-38   | 22-29-41   | 23-31-44    | 26-35-49    | 29-38-54    | 30-41-58    | 33-44-62    |
|                                 |               | Sound | --- / ---  | --- / ---  | --- / ---  | --- / ---  | 10/10H     | 15/15H      | 22/24N      | 29/30N      | 35/35N      | 39/39N      |
|                                 | 22.5°         | Throw | 18-14-22   | 11-18-25   | 14-19-28   | 16-22-30   | 18-23-33   | 18-25-35    | 21-28-39    | 23-30-43    | 24-33-46    | 26-35-50    |
|                                 |               | Sound | --- / ---  | --- / ---  | --- / ---  | 14/15H     | 20/21H     | 25/26H      | 33/34H      | 38/38N      | 42/42N      | 46/46N      |
|                                 | 45°           | Throw | 5-8-13     | 7-11-15    | 9-12-17    | 10-13-18   | 11-14-20   | 11-15-21    | 12-17-24    | 14-18-26    | 14-20-28    | 16-21-30    |
|                                 |               | Sound | --- / ---  | 15/17H     | 21/22H     | 27/27H     | 32/32H     | 36/36H      | 43/43N      | 48/48N      | 51/51N      | 56/56N      |
| <b>Flow (CFM)</b>               |               |       | <b>250</b> | <b>333</b> | <b>417</b> | <b>500</b> | <b>583</b> | <b>667</b>  | <b>833</b>  | <b>1000</b> | <b>1167</b> | <b>1333</b> |
| 12 x 10<br>83 ft <sup>2</sup>   | 0°            | Throw | 11-18-28   | 15-23-33   | 18-26-37   | 21-28-40   | 23-31-43   | 24-33-47    | 27-37-52    | 30-40-57    | 32-43-61    | 35-46-65    |
|                                 |               | Sound | --- / ---  | --- / ---  | --- / ---  | --- / ---  | 11/11H     | 16/16H      | 23/23N      | 30/29N      | 36/35N      | 39/38N      |
|                                 | 22.5°         | Throw | 9-14-22    | 12-18-26   | 14-21-30   | 17-22-32   | 18-25-34   | 19-26-38    | 22-30-42    | 24-32-46    | 26-34-49    | 28-37-52    |
|                                 |               | Sound | --- / ---  | --- / ---  | 10/10H     | 15/15H     | 20/20H     | 25/26H      | 34/35H      | 39/39N      | 43/43N      | 47/47N      |
|                                 | 45°           | Throw | 5-9-13     | 7-11-16    | 9-12-18    | 10-13-19   | 11-15-21   | 12-16-23    | 13-18-25    | 14-19-27    | 15-21-29    | 17-22-31    |
|                                 |               | Sound | --- / ---  | 16/18H     | 22/23H     | 28/28H     | 33/32H     | 37/36H      | 43/43N      | 49/49N      | 52/52N      | 57/57N      |
| <b>Flow (CFM)</b>               |               |       | <b>300</b> | <b>400</b> | <b>500</b> | <b>600</b> | <b>700</b> | <b>800</b>  | <b>1000</b> | <b>1200</b> | <b>1400</b> | <b>1600</b> |
| 12 x 12<br>1.00 ft <sup>2</sup> | 0°            | Throw | 12-20-31   | 16-25-36   | 20-28-40   | 23-31-44   | 25-34-48   | 27-36-51    | 30-40-57    | 33-44-62    | 35-47-67    | 38-50-71    |
|                                 |               | Sound | --- / ---  | --- / ---  | --- / ---  | --- / ---  | 13/13H     | 17/17H      | 25/25N      | 32/31N      | 37/36N      | 41/40N      |
|                                 | 22.5°         | Throw | 10-16-25   | 13-20-29   | 16-22-32   | 18-25-35   | 20-27-38   | 22-29-41    | 24-32-46    | 26-35-50    | 28-38-54    | 30-40-57    |
|                                 |               | Sound | --- / ---  | --- / ---  | 11/11H     | 16/16H     | 22/22H     | 27/28H      | 36/37H      | 41/41N      | 44/44N      | 48/48N      |
|                                 | 45°           | Throw | 6-10-15    | 8-12-17    | 10-13-19   | 11-15-21   | 12-16-23   | 13-17-24    | 14-19-27    | 16-21-30    | 17-23-32    | 18-24-34    |
|                                 |               | Sound | --- / ---  | 17/19H     | 24/25H     | 30/30H     | 34/33H     | 38/37H      | 45/45N      | 50/50N      | 54/54N      | 58/58N      |
| <b>Flow (CFM)</b>               |               |       | <b>375</b> | <b>500</b> | <b>625</b> | <b>750</b> | <b>875</b> | <b>1000</b> | <b>1250</b> | <b>1500</b> | <b>1750</b> | <b>2000</b> |
| 18 x 10<br>1.25 ft <sup>2</sup> | 0°            | Throw | 13-22-35   | 18-28-40   | 23-32-45   | 26-35-49   | 28-37-53   | 30-40-57    | 33-45-64    | 37-50-69    | 39-53-75    | 43-56-80    |
|                                 |               | Sound | --- / ---  | --- / ---  | --- / ---  | --- / ---  | 14/13H     | 18/16H      | 26/26N      | 34/33N      | 38/37N      | 42/42N      |
|                                 | 22.5°         | Throw | 10-18-28   | 14-22-32   | 18-26-36   | 21-28-39   | 22-30-42   | 24-32-46    | 26-36-51    | 30-40-55    | 31-42-60    | 34-45-64    |
|                                 |               | Sound | --- / ---  | --- / ---  | 12/13H     | 17/18H     | 23/24H     | 28/28N      | 37/37N      | 42/42N      | 46/46N      | 49/49N      |
|                                 | 45°           | Throw | 6-11-17    | 9-13-19    | 11-15-22   | 12-17-24   | 13-18-25   | 14-19-27    | 16-22-31    | 18-24-33    | 19-25-36    | 21-27-38    |
|                                 |               | Sound | --- / ---  | 19/20H     | 26/27N     | 32/32N     | 37/37N     | 40/41N      | 47/49N      | 52/52N      | 55/55N      | 59/59N      |

**Notes on**

**Performance Data:**

- Performance data is based on tests conducted in accordance with ANSI/ASHRAE Standard 70-1991.
- Actual Performance in the field may vary.
- Testing was conducted in isothermal conditions.
- Sound level values are based on a room absorption of 10db re 10<sup>-12</sup> watts.
- A "----" indicates an NC value less than 10.

**Units of**

**Measure Used:**

- Velocity is given in Feet per Minute (fpm).
- Pressure is given in inches of Water (w.g.)
- Flows are given in Cubic Feet per Minute (CFM).
- Throws are given in feet to terminal velocities of 150, 100 and 50 fpm, respectively.
- Sound data is given in both NC and RC. NC is first with RC second, separated by a slash.

| Duct Velocity                   | Velocity Press. | 300       | 400       | 500       | 600       | 700      | 800      | 1000      | 1200      | 1400      | 1600      |            |
|---------------------------------|-----------------|-----------|-----------|-----------|-----------|----------|----------|-----------|-----------|-----------|-----------|------------|
|                                 |                 | 0.006     | 0.010     | 0.016     | 0.022     | 0.031    | 0.040    | 0.062     | 0.090     | 0.122     | 0.160     |            |
| Nom. Size (in.)                 | Total           | 0°        | 0.008     | 0.014     | 0.022     | 0.032    | 0.045    | 0.058     | 0.091     | 0.131     | 0.182     | 0.238      |
|                                 | Press.          | 22.5°     | 0.010     | 0.019     | 0.029     | 0.043    | 0.058    | 0.077     | 0.119     | 0.172     | 0.236     | 0.307      |
|                                 | (w.g.)          | 45°       | 0.016     | 0.028     | 0.044     | 0.064    | 0.087    | 0.114     | 0.177     | 0.252     | 0.348     | 0.454      |
| 18 x 12<br>1.50 ft <sup>2</sup> | Flow (CFM)      |           | 450       | 600       | 750       | 900      | 1050     | 1200      | 1500      | 1800      | 2100      | 2400       |
|                                 | 0°              | Throw     | 15-58-38  | 20-31-44  | 25-34-49  | 28-38-54 | 31-41-58 | 33-44-62  | 37-49-69  | 40-54-76  | 43-58-82  | 47-62-87   |
|                                 | Sound           | --- / --- | --- / --- | --- / --- | --- / --- | 16/15H   | 19/17H   | 28/28N    | 35/34N    | 40/39N    | 43/43N    |            |
| 18 x 14<br>1.75 ft <sup>2</sup> | 22.5°           | Throw     | 12-20-30  | 16-25-35  | 20-27-39  | 22-30-43 | 25-33-46 | 26-35-50  | 30-39-55  | 32-43-61  | 34-46-66  | 38-50-70   |
|                                 | Sound           | --- / --- | --- / --- | 13/14H    | 18/19H    | 24/25H   | 29/29N   | 38/38N    | 43/43N    | 47/47N    | 50/50N    |            |
|                                 | 45°             | Throw     | 7-12-18   | 10-15-21  | 12-16-24  | 13-18-26 | 15-20-28 | 16-21-30  | 18-24-33  | 19-26-36  | 21-28-39  | 23-30-42   |
| 24 x 12<br>2.00 ft <sup>2</sup> | Sound           | --- / --- | 20/21H    | 27/28N    | 33/33N    | 38/38N   | 42/43N   | 48/50N    | 53/53N    | 57/57N    | 60/60N    |            |
|                                 | Flow (CFM)      |           | 525       | 700       | 875       | 1050     | 1225     | 1400      | 1750      | 2100      | 2450      | 2800       |
|                                 | 0°              | Throw     | 16-27-41  | 21-34-47  | 27-37-53  | 31-41-58 | 33-44-63 | 35-48-67  | 39-53-75  | 43-59-82  | 46-62-88  | 50-67-94   |
| 24 x 14<br>2.25 ft <sup>2</sup> | Sound           | --- / --- | --- / --- | --- / --- | 10/10H    | 17/16H   | 20/18N   | 29/29N    | 36/35N    | 41/40N    | 44/44N    |            |
|                                 | 22.5°           | Throw     | 13-22-33  | 17-27-38  | 22-30-42  | 25-33-46 | 26-35-50 | 28-28-54  | 31-42-60  | 34-47-66  | 37-50-70  | 40-54-75   |
|                                 | Sound           | --- / --- | --- / --- | 13/14H    | 18/19H    | 25/26H   | 30/30N   | 39/39N    | 44/44N    | 48/48N    | 51/51N    |            |
| 24 x 18<br>2.25 ft <sup>2</sup> | 45°             | Throw     | 8-13-20   | 10-16-23  | 13-18-25  | 15-20-28 | 16-21-30 | 17-23-32  | 19-25-36  | 21-28-39  | 22-30-42  | 24-32-45   |
|                                 | Sound           | 11/11H    | 21/22H    | 29/30N    | 34/34N    | 39/34N   | 43/44N   | 49/51N    | 54/54N    | 58/58N    | 61/61N    |            |
|                                 | Flow (CFM)      |           | 600       | 800       | 1000      | 1200     | 1400     | 1600      | 2000      | 2400      | 2800      | 3200       |
| 18 x 18<br>2.25 ft <sup>2</sup> | 0°              | Throw     | 17-28-44  | 23-36-51  | 29-40-57  | 33-44-62 | 35-47-67 | 38-51-72  | 42-57-80  | 47-63-87  | 49-67-94  | 54-71-101  |
|                                 | Sound           | --- / --- | --- / --- | --- / --- | 11/11H    | 17/16H   | 21/19N   | 29/29N    | 37/36N    | 41/40N    | 45/45N    |            |
|                                 | 22.5°           | Throw     | 14-22-35  | 18-29-41  | 23-32-46  | 26-35-50 | 28-38-54 | 30-41-58  | 34-46-64  | 38-50-70  | 39-54-75  | 43-57-81   |
| 30 x 12<br>2.50 ft <sup>2</sup> | Sound           | --- / --- | 10/10H    | 14/14H    | 19/19H    | 25/25H   | 31/31N   | 40/40N    | 45/45N    | 48/48N    | 52/52N    |            |
|                                 | 45°             | Throw     | 8-13-21   | 11-17-24  | 14-19-27  | 16-21-30 | 17-23-32 | 18-24-35  | 20-27-38  | 23-30-42  | 24-32-45  | 26-34-48   |
|                                 | Sound           | 12/12H    | 22/23H    | 30/31N    | 35/35N    | 40/40N   | 44/45N   | 50/52N    | 55/55N    | 59/59N    | 62/62N    |            |
| 30 x 14<br>2.50 ft <sup>2</sup> | Flow (CFM)      |           | 675       | 900       | 1125      | 1350     | 1575     | 1800      | 2250      | 2700      | 3150      | 3600       |
|                                 | 0°              | Throw     | 18-30-47  | 24-38-54  | 30-42-60  | 35-46-66 | 38-50-71 | 40-54-76  | 45-60-84  | 49-66-92  | 53-70-100 | 57-76-107  |
|                                 | Sound           | --- / --- | --- / --- | --- / --- | 12/12H    | 18/17H   | 22/20N   | 30/30N    | 38/37N    | 42/41N    | 45/45N    |            |
| 30 x 16<br>2.50 ft <sup>2</sup> | 22.5°           | Throw     | 14-24-38  | 19-30-43  | 24-34-48  | 28-37-53 | 30-40-57 | 32-43-61  | 36-48-67  | 39-53-74  | 42-56-80  | 46-61-86   |
|                                 | Sound           | --- / --- | 10/10H    | 14/15H    | 19/20H    | 26/27H   | 31/31N   | 40/40N    | 45/45N    | 49/49N    | 52/52N    |            |
|                                 | 45°             | Throw     | 9-14-23   | 12-18-26  | 14-20-29  | 17-22-32 | 18-24-34 | 19-26-36  | 22-29-40  | 24-32-44  | 25-34-48  | 27-36-51   |
| 30 x 18<br>3.00 ft <sup>2</sup> | Sound           | 13/13H    | 22/23H    | 30/31N    | 36/36N    | 40/40N   | 44/45N   | 51/53N    | 55/55N    | 59/59N    | 63/63N    |            |
|                                 | Flow (CFM)      |           | 750       | 1000      | 1250      | 1500     | 1750     | 2000      | 2500      | 3000      | 3500      | 4000       |
|                                 | 0°              | Throw     | 19-32-49  | 26-40-57  | 32-44-64  | 37-49-69 | 40-53-75 | 42-57-80  | 47-64-89  | 52-70-97  | 55-74-106 | 60-79-113  |
| 30 x 24<br>3.50 ft <sup>2</sup> | Sound           | --- / --- | --- / --- | --- / --- | 13/13H    | 19/18H   | 23/21N   | 31/31N    | 38/37N    | 42/41N    | 46/46N    |            |
|                                 | 22.5°           | Throw     | 15-26-39  | 21-32-46  | 26-35-51  | 30-39-55 | 32-42-60 | 34-46-64  | 38-51-71  | 42-56-78  | 44-59-85  | 48-63-90   |
|                                 | Sound           | --- / --- | 10/10H    | 14/15H    | 20/21H    | 26/27H   | 32/32N   | 41/41N    | 46/46N    | 49/49N    | 53/53N    |            |
| 30 x 30<br>3.75 ft <sup>2</sup> | 45°             | Throw     | 9-15-24   | 12-19-27  | 15-21-31  | 18-24-33 | 19-25-36 | 20-27-38  | 23-31-43  | 25-34-47  | 26-36-51  | 29-38-54   |
|                                 | Sound           | 13/13H    | 23/24H    | 31/32N    | 36/36N    | 41/41N   | 45/46N   | 51/53N    | 56/56N    | 60/60N    | 63/63N    |            |
|                                 | Flow (CFM)      |           | 900       | 1200      | 1500      | 1800     | 2100     | 2400      | 3000      | 3600      | 4200      | 4800       |
| 24 x 18<br>3.00 ft <sup>2</sup> | 0°              | Throw     | 21-35-54  | 28-44-62  | 35-49-70  | 40-53-76 | 43-58-82 | 46-62-88  | 51-70-97  | 57-76-107 | 60-81-115 | 66-87-123  |
|                                 | Sound           | --- / --- | --- / --- | --- / --- | 14/14H    | 20/19H   | 24/22N   | 32/32N    | 39/38N    | 43/42N    | 46/46N    |            |
|                                 | 22.5°           | Throw     | 17-28-43  | 22-35-50  | 28-39-56  | 32-42-61 | 34-46-66 | 37-50-70  | 41-56-78  | 46-61-86  | 48-65-92  | 53-70-98   |
| 24 x 24<br>4.00 ft <sup>2</sup> | Sound           | --- / --- | 11/11H    | 15/16H    | 21/22H    | 27/28H   | 32/32N   | 42/42N    | 46/46N    | 50/50N    | 54/54N    |            |
|                                 | 45°             | Throw     | 10-17-26  | 13-21-30  | 17-24-34  | 19-25-36 | 21-28-39 | 22-30-42  | 24-34-47  | 27-36-51  | 29-39-55  | 32-42-59   |
|                                 | Sound           | 15/15H    | 24/25H    | 32/33N    | 37/37N    | 42/42N   | 46/47N   | 53/55N    | 57/57N    | 60/60N    | 64/64N    |            |
| 42 x 12<br>3.50 ft <sup>2</sup> | Flow (CFM)      |           | 1050      | 1400      | 1750      | 2100     | 2450     | 2800      | 3500      | 4200      | 4900      | 5600       |
|                                 | 0°              | Throw     | 22-38-58  | 30-48-67  | 38-53-75  | 43-58-82 | 47-63-89 | 50-67-95  | 55-75-106 | 61-82-116 | 65-88-125 | 71-94-133  |
|                                 | Sound           | --- / --- | --- / --- | --- / --- | 15/15H    | 21/20H   | 25/23N   | 33/31N    | 40/39N    | 44/44N    | 47/47N    |            |
| 30 x 18<br>3.75 ft <sup>2</sup> | 22.5°           | Throw     | 18-30-46  | 24-38-54  | 30-42-60  | 34-46-66 | 38-50-71 | 40-54-76  | 44-60-85  | 49-66-93  | 52-70-100 | 57-75-106  |
|                                 | Sound           | --- / --- | 11/11H    | 15/16H    | 21/22N    | 28/29N   | 33/33N   | 42/42N    | 47/47N    | 51/51N    | 54/54N    |            |
|                                 | 45°             | Throw     | 11-18-28  | 14-23-32  | 18-25-36  | 21-28-39 | 23-30-43 | 24-32-46  | 26-36-51  | 29-39-56  | 31-42-60  | 34-45-64   |
| 30 x 24<br>3.75 ft <sup>2</sup> | Sound           | 16/16H    | 24/26H    | 33/35N    | 38/38N    | 43/44N   | 46/47N   | 53/53N    | 57/57N    | 62/62N    | 65/65N    |            |
|                                 | Flow (CFM)      |           | 1125      | 1500      | 1875      | 2250     | 2625     | 3000      | 3750      | 4500      | 5250      | 6000       |
|                                 | 0°              | Throw     | 23-39-60  | 31-49-70  | 39-54-78  | 45-60-85 | 48-65-92 | 51-70-99  | 57-78-109 | 63-86-119 | 67-91-128 | 73-97-138  |
| 24 x 24<br>4.00 ft <sup>2</sup> | Sound           | --- / --- | --- / --- | --- / --- | 15/15H    | 21/20H   | 25/23N   | 33/31N    | 41/40N    | 45/45N    | 47/47N    |            |
|                                 | 22.5°           | Throw     | 18-31-48  | 25-39-56  | 31-43-62  | 36-48-68 | 38-52-74 | 41-56-79  | 46-62-87  | 50-69-95  | 54-73-102 | 58-78-110  |
|                                 | Sound           | --- / --- | 12/12H    | 16/17H    | 21/22N    | 28/29N   | 33/33N   | 43/43N    | 47/47N    | 51/51N    | 55/55N    |            |
| 24 x 24<br>4.00 ft <sup>2</sup> | 45°             | Throw     | 11-19-29  | 15-24-34  | 19-26-37  | 22-29-41 | 23-31-44 | 24-34-48  | 27-37-52  | 30-41-57  | 32-44-61  | 35-47-66   |
|                                 | Sound           | 16/16H    | 25/27N    | 33/35N    | 38/38N    | 43/44N   | 47/48N   | 54/54N    | 58/58N    | 62/62N    | 65/65N    |            |
|                                 | Flow (CFM)      |           | 1200      | 1600      | 2000      | 2400     | 2800     | 3200      | 4000      | 4800      | 5600      | 6400       |
| 24 x 24<br>4.00 ft <sup>2</sup> | 0°              | Throw     | 24-40-62  | 33-51-72  | 40-56-80  | 46-62-88 | 50-67-95 | 53-72-102 | 59-80-113 | 66-88-124 | 70-94-133 | 76-101-143 |
|                                 | Sound           | --- / --- | --- / --- | --- / --- | 16/16H    | 21/20H   | 26/24N   | 34/32N    | 41/40N    | 45/45N    | 47/47N    |            |
|                                 | 22.5°           | Throw     | 19-32-50  | 26-41-58  | 32-45-64  | 37-50-70 | 40-54-76 | 42-58-82  | 47-64-90  | 53-70-99  | 56-75-106 | 61-81-114  |
| 24 x 24<br>4.00 ft <sup>2</sup> | Sound           | --- / --- | 12/12H    | 16/17H    | 22/23N    | 28/29N   | 33/33N   | 43/43N    | 47/47N    | 51/51N    | 55/55N    |            |
|                                 | 45°             | Throw     | 12-19-30  | 16-24-35  | 19-27-38  | 22-30-42 | 24-32-46 | 25-35-49  | 28-38-54  | 32-42-60  | 34-45-64  | 36-48-69   |
|                                 | Sound           | 17/17H    | 26/28H    | 34/36N    | 39/39N    | 43/44N   | 47/48N   | 54/54N    | 58/58N    | 62/62N    | 65/65N    |            |

Notes on

Performance Data:

- Performance data is based on tests conducted in accordance with ANSI/ASHRAE Standard 70-1991.
- Actual Performance in the field may vary.
- Testing was conducted in isothermal conditions.
- Sound level values are based on a room absorption of 10db re 10<sup>-12</sup> watts.
- A "----" indicates an NC value less than 10.

Units of

Measure Used:

- Velocity is given in Feet per Minute (fpm).
- Pressure is given in inches of Water (w.g.)
- Flows are given in Cubic Feet per Minute (CFM).
- Throws are given in feet to terminal velocities of 150, 100 and 50 fpm, respectively.
- Sound data is given in both NC and RC. NC is first with RC second, separated by a slash.

| Duct Velocity                   | Velocity Press. | 300       | 400       | 500       | 600       | 700       | 800       | 1000       | 1200       | 1400       | 1600        |             |
|---------------------------------|-----------------|-----------|-----------|-----------|-----------|-----------|-----------|------------|------------|------------|-------------|-------------|
|                                 |                 | 0.006     | 0.010     | 0.016     | 0.022     | 0.031     | 0.040     | 0.062      | 0.090      | 0.122      | 0.160       |             |
| Nom. Size (in.)                 | Total           | 0°        | 0.008     | 0.014     | 0.022     | 0.032     | 0.045     | 0.058      | 0.091      | 0.131      | 0.182       | 0.238       |
|                                 | Press. (w.g.)   | 22.5°     | 0.010     | 0.019     | 0.029     | 0.043     | 0.058     | 0.077      | 0.119      | 0.172      | 0.236       | 0.307       |
|                                 |                 | 45°       | 0.016     | 0.028     | 0.044     | 0.064     | 0.087     | 0.114      | 0.177      | 0.252      | 0.348       | 0.454       |
| 36 x 18<br>4.50 ft <sup>2</sup> | Flow (CFM)      |           | 1350      | 1800      | 2250      | 2700      | 3150      | 3600       | 4500       | 5400       | 6300        | 7200        |
|                                 | 0°              | Throw     | 25-43-66  | 34-54-76  | 43-59-85  | 49-66-94  | 53-70-101 | 56-76-108  | 63-85-120  | 69-93-131  | 74-99-142   | 80-107-151  |
|                                 |                 | Sound     | --- / --- | --- / --- | --- / --- | 16/16H    | 22/21N    | 26/25N     | 35/34N     | 42/41N     | 45/45N      | 48/48N      |
| 22.5°                           | Throw           | 20-34-53  | 27-43-61  | 34-47-68  | 39-53-75  | 42-56-81  | 45-61-86  | 50-68-96   | 55-74-105  | 59-79-114  | 64-86-121   |             |
|                                 | Sound           | --- / --- | 12/12H    | 16/16H    | 22/23N    | 29/29N    | 34/35N    | 43/44N     | 48/48N     | 52/52N     | 55/55N      |             |
| 45°                             | Throw           | 12-21-32  | 16-26-36  | 21-28-41  | 24-32-45  | 25-34-48  | 27-36-52  | 30-41-58   | 33-45-63   | 36-48-68   | 38-51-72    |             |
|                                 | Sound           | 17/17H    | 26/28N    | 34/36N    | 39/39N    | 44/45N    | 47/48N    | 54/54N     | 59/59N     | 62/62N     | 66/66N      |             |
| 30 x 24<br>5.00 ft <sup>2</sup> | Flow (CFM)      |           | 1500      | 2000      | 2500      | 3000      | 3500      | 4000       | 5000       | 6000       | 7000        | 8000        |
|                                 | 0°              | Throw     | 27-45-69  | 36-57-80  | 45-63-90  | 52-69-98  | 56-75-106 | 59-80-113  | 66-90-126  | 73-99-138  | 77-104-148  | 85-112-159  |
|                                 |                 | Sound     | --- / --- | --- / --- | --- / --- | 17/17H    | 23/22N    | 27/26N     | 35/34N     | 42/41N     | 46/46N      | 49/49N      |
| 22.5°                           | Throw           | 22-36-55  | 29-46-64  | 36-50-72  | 42-55-78  | 45-60-85  | 47-64-90  | 53-72-101  | 58-79-110  | 62-83-118  | 68-90-127   |             |
|                                 | Sound           | --- / --- | 12/12H    | 16/17H    | 23/24N    | 29/29N    | 34/35N    | 44/45N     | 48/48N     | 52/52N     | 56/56N      |             |
| 45°                             | Throw           | 13-22-33  | 17-27-38  | 22-30-43  | 25-33-47  | 27-36-51  | 28-38-54  | 32-43-60   | 35-48-66   | 37-50-71   | 41-54-76    |             |
|                                 | Sound           | 17/17H    | 26/28N    | 35/37N    | 40/40N    | 44/45N    | 48/49N    | 55/55N     | 59/59N     | 63/63N     | 66/66N      |             |
| 42 x 18<br>5.25 ft <sup>2</sup> | Flow (CFM)      |           | 1575      | 2100      | 2625      | 3150      | 3675      | 4200       | 5250       | 6300       | 7350        | 8400        |
|                                 | 0°              | Throw     | 27-46-71  | 37-58-83  | 46-64-92  | 53-71-101 | 57-76-108 | 60-82-117  | 68-92-129  | 75-101-142 | 80-107-153  | 87-115-163  |
|                                 |                 | Sound     | --- / --- | --- / --- | --- / --- | 17/17H    | 23/22N    | 27/26N     | 35/34N     | 42/41N     | 46/46N      | 49/49N      |
| 22.5°                           | Throw           | 22-37-57  | 30-46-66  | 37-51-74  | 42-57-81  | 46-61-86  | 48-66-94  | 54-74-103  | 60-81-114  | 64-86-122  | 70-92-130   |             |
|                                 | Sound           | --- / --- | 13/13H    | 17/18H    | 23/24N    | 29/29N    | 34/35N    | 44/45N     | 48/48N     | 52/52N     | 56/56N      |             |
| 45°                             | Throw           | 13-22-34  | 18-28-40  | 22-31-44  | 25-34-48  | 27-36-52  | 29-39-56  | 33-44-62   | 36-48-68   | 38-51-73   | 42-55-78    |             |
|                                 | Sound           | 18/18H    | 26/28N    | 35/37N    | 40/40N    | 44/45N    | 48/49N    | 55/55N     | 59/59N     | 63/63N     | 66/66N      |             |
| 48 x 18<br>6.00 ft <sup>2</sup> | Flow (CFM)      |           | 1800      | 2400      | 3000      | 3600      | 4200      | 4800       | 6000       | 7200       | 8400        | 9600        |
|                                 | 0°              | Throw     | 29-49-76  | 40-62-88  | 49-68-98  | 56-76-108 | 61-82-116 | 65-88-124  | 72-98-138  | 80-108-151 | 85-115-163  | 93-123-174  |
|                                 |                 | Sound     | --- / --- | --- / --- | --- / --- | 18/18H    | 24/23N    | 28/27N     | 36/35N     | 43/42N     | 47/47N      | 49/49N      |
| 22.5°                           | Throw           | 23-39-61  | 32-50-70  | 39-54-78  | 45-61-86  | 49-66-93  | 52-70-99  | 58-78-110  | 64-86-121  | 68-92-130  | 74-98-139   |             |
|                                 | Sound           | --- / --- | 13/13H    | 17/18H    | 23/24N    | 29/29N    | 35/36N    | 44/45N     | 49/49N     | 53/53N     | 57/57N      |             |
| 45°                             | Throw           | 14-24-36  | 19-30-42  | 24-33-47  | 27-36-52  | 29-39-56  | 31-42-60  | 35-47-66   | 38-52-72   | 41-55-78   | 45-59-84    |             |
|                                 | Sound           | 18/18H    | 27/29N    | 36/38N    | 40/40N    | 45/46N    | 48/49N    | 56/56N     | 60/60N     | 64/64N     | 67/67N      |             |
| 30 x 30<br>6.25 ft <sup>2</sup> | Flow (CFM)      |           | 1875      | 2500      | 3125      | 3750      | 4375      | 5000       | 6250       | 7500       | 8750        | 10000       |
|                                 | 0°              | Throw     | 30-51-78  | 41-64-90  | 51-70-101 | 58-77-111 | 63-84-118 | 66-90-127  | 74-100-141 | 82-110-155 | 87-118-167  | 95-126-178  |
|                                 |                 | Sound     | --- / --- | --- / --- | --- / --- | 18/18H    | 24/23N    | 29/28N     | 36/35N     | 43/42N     | 47/47N      | 50/50N      |
| 22.5°                           | Throw           | 24-41-62  | 33-51-72  | 41-56-81  | 46-62-89  | 50-67-94  | 53-72-102 | 59-80-113  | 66-88-124  | 70-94-134  | 76-101-142  |             |
|                                 | Sound           | --- / --- | 13/13H    | 17/18H    | 24/25N    | 30/30N    | 35/36N    | 44/45N     | 49/49N     | 53/53N     | 57/57N      |             |
| 45°                             | Throw           | 14-24-37  | 20-31-43  | 24-34-48  | 28-37-53  | 30-40-57  | 32-43-61  | 36-48-68   | 39-53-74   | 42-57-80   | 46-60-85    |             |
|                                 | Sound           | 18/18H    | 27/29N    | 36/38N    | 41/41N    | 45/46N    | 48/49N    | 56/56N     | 60/60N     | 64/64N     | 67/67N      |             |
| 42 x 24<br>7.00 ft <sup>2</sup> | Flow (CFM)      |           | 2100      | 2800      | 3500      | 4200      | 4900      | 5600       | 7000       | 8400       | 9800        | 11200       |
|                                 | 0°              | Throw     | 32-53-82  | 43-67-95  | 53-74-107 | 61-82-116 | 66-88-125 | 70-95-134  | 78-106-149 | 86-116-163 | 92-124-177  | 100-133-188 |
|                                 |                 | Sound     | --- / --- | --- / --- | --- / --- | 19/19H    | 25/24N    | 29/28N     | 37/36N     | 44/43N     | 47/47N      | 50/50N      |
| 22.5°                           | Throw           | 26-42-66  | 34-54-76  | 42-59-86  | 49-66-93  | 53-70-100 | 56-76-107 | 62-85-119  | 69-93-130  | 74-99-142  | 80-106-150  |             |
|                                 | Sound           | --- / --- | 13/13H    | 17/18H    | 24/25N    | 30/30N    | 35/35N    | 45/46N     | 49/49N     | 54/54N     | 57/57N      |             |
| 45°                             | Throw           | 15-25-39  | 21-32-46  | 25-36-51  | 29-39-56  | 32-42-60  | 34-46-64  | 37-51-72   | 41-56-78   | 44-60-85   | 48-64-90    |             |
|                                 | Sound           | 19/19H    | 28/30N    | 36/38N    | 41/41N    | 45/46N    | 49/50N    | 56/56N     | 61/61N     | 64/64N     | 68/68N      |             |
| 36 x 30<br>7.50 ft <sup>2</sup> | Flow (CFM)      |           | 2250      | 3000      | 3750      | 4500      | 5250      | 6000       | 7500       | 9000       | 10500       | 12000       |
|                                 | 0°              | Throw     | 33-55-85  | 45-69-99  | 55-77-110 | 63-84-120 | 69-91-130 | 73-98-139  | 81-110-154 | 90-121-169 | 95-128-183  | 104-137-195 |
|                                 |                 | Sound     | --- / --- | --- / --- | --- / --- | 19/19H    | 25/24N    | 30/29N     | 37/36N     | 44/43N     | 47/47N      | 50/50N      |
| 22.5°                           | Throw           | 26-44-68  | 36-55-79  | 44-62-88  | 50-67-96  | 55-73-104 | 58-78-111 | 65-88-123  | 72-97-135  | 76-102-146 | 83-110-156  |             |
|                                 | Sound           | --- / --- | 13/13H    | 18/19H    | 24/25N    | 30/30N    | 36/37N    | 45/46N     | 50/50N     | 54/54N     | 57/57N      |             |
| 45°                             | Throw           | 16-26-41  | 22-33-48  | 26-37-53  | 30-40-58  | 33-44-62  | 35-47-67  | 39-53-74   | 43-58-81   | 46-61-88   | 50-66-94    |             |
|                                 | Sound           | 19/19H    | 28/30N    | 37/39N    | 41/42N    | 45/46N    | 49/50N    | 56/56N     | 61/61N     | 64/64N     | 68/68N      |             |
| 48 x 24<br>8.00 ft <sup>2</sup> | Flow (CFM)      |           | 2400      | 3200      | 4000      | 4800      | 5600      | 6400       | 8000       | 9600       | 11200       | 12800       |
|                                 | 0°              | Throw     | 34-57-88  | 46-71-101 | 57-79-113 | 65-87-124 | 71-94-133 | 75-102-143 | 84-113-159 | 92-125-174 | 98-133-189  | 107-142-202 |
|                                 |                 | Sound     | --- / --- | --- / --- | --- / --- | 20/20H    | 26/25N    | 30/29N     | 38/37N     | 45/44N     | 48/48N      | 51/51N      |
| 22.5°                           | Throw           | 27-46-70  | 37-57-81  | 46-63-90  | 52-70-99  | 57-75-106 | 60-82-114 | 67-90-127  | 74-100-139 | 78-106-151 | 86-114-162  |             |
|                                 | Sound           | --- / --- | 14/14H    | 18/19H    | 24/25N    | 30/30N    | 36/37N    | 45/46N     | 50/50N     | 54/54N     | 58/58N      |             |
| 45°                             | Throw           | 16-27-42  | 22-34-48  | 27-38-54  | 31-42-60  | 34-45-64  | 36-49-69  | 40-54-76   | 44-60-84   | 47-64-91   | 51-68-97    |             |
|                                 | Sound           | 19/19H    | 28/30N    | 37/39N    | 42/42N    | 46/47N    | 49/50N    | 57/57N     | 61/61N     | 65/65N     | 68/68N      |             |
| 42 x 30<br>8.75 ft <sup>2</sup> | Flow (CFM)      |           | 2625      | 3500      | 4375      | 5250      | 6125      | 7000       | 8750       | 10500      | 12250       | 14000       |
|                                 | 0°              | Throw     | 35-60-92  | 48-75-106 | 60-83-118 | 69-91-129 | 74-99-140 | 79-106-150 | 88-119-167 | 97-131-183 | 103-139-197 | 112-149-212 |
|                                 |                 | Sound     | --- / --- | --- / --- | --- / --- | 20/20H    | 26/25N    | 31/30N     | 38/37N     | 45/44N     | 48/48N      | 51/51N      |
| 22.5°                           | Throw           | 28-48-74  | 38-60-85  | 48-66-94  | 55-73-103 | 59-79-112 | 63-85-120 | 70-95-134  | 78-105-146 | 82-111-158 | 90-119-170  |             |
|                                 | Sound           | --- / --- | 14/14H    | 18/19H    | 25/26N    | 31/31N    | 36/37N    | 46/47N     | 50/50N     | 55/55N     | 58/58N      |             |
| 45°                             | Throw           | 17-29-44  | 23-36-51  | 29-40-57  | 33-44-62  | 36-48-67  | 38-51-72  | 42-57-80   | 47-63-88   | 49-67-95   | 54-72-102   |             |
|                                 | Sound           | 20/20H    | 29/31N    | 37/39N    | 42/42N    | 46/47N    | 49/50N    | 57/57N     | 62/62N     | 65/65N     | 68/68N      |             |

**Notes on**

**Performance Data:**

- Performance data is based on tests conducted in accordance with ANSI/ASHRAE Standard 70-1991.
- Actual Performance in the field may vary.
- Testing was conducted in isothermal conditions.
- Sound level values are based on a room absorption of 10db re 10<sup>-12</sup> watts.
- A "----" indicates an NC value less than 10.

**Units of**

**Measure Used:**

- Velocity is given in Feet per Minute (fpm).
- Pressure is given in inches of Water (w.g.)
- Flows are given in Cubic Feet per Minute (CFM).
- Throws are given in feet to terminal velocities of 150, 100 and 50 fpm, respectively.
- Sound data is given in both NC and RC. NC is first with RC second, separated by a slash.



| Duct Velocity                    | Velocity Press.     | 300         | 400         | 500         | 600         | 700          | 800          | 1000         | 1200         | 1400         | 1600         |
|----------------------------------|---------------------|-------------|-------------|-------------|-------------|--------------|--------------|--------------|--------------|--------------|--------------|
| <b>Nom. Size (in.)</b>           | <b>Total Press.</b> | 0.008       | 0.014       | 0.022       | 0.032       | 0.045        | 0.058        | 0.091        | 0.131        | 0.182        | 0.238        |
|                                  | 22.5°               | 0.010       | 0.019       | 0.029       | 0.043       | 0.058        | 0.077        | 0.119        | 0.172        | 0.236        | 0.307        |
|                                  | 45°                 | 0.016       | 0.028       | 0.044       | 0.064       | 0.087        | 0.114        | 0.177        | 0.252        | 0.348        | 0.454        |
| <b>Flow (CFM)</b>                |                     | <b>2700</b> | <b>3600</b> | <b>4500</b> | <b>5400</b> | <b>6300</b>  | <b>7200</b>  | <b>9000</b>  | <b>10800</b> | <b>12600</b> | <b>14400</b> |
| 36 x 36<br>9.00 ft <sup>2</sup>  | 0° Throw            | 36-61-93    | 49-76-108   | 61-84-120   | 69-92-132   | 75-100-142   | 80-108-152   | 89-121-170   | 98-132-185   | 104-141-201  | 113-151-214  |
|                                  | 0° Sound            | --- / ---   | --- / ---   | --- / ---   | 20/20H      | 26/25N       | 31/30N       | 38/37N       | 45/44N       | 48/48N       | 51/51N       |
|                                  | 22.5° Throw         | 29-49-74    | 39-61-86    | 49-67-96    | 55-74-106   | 60-80-114    | 64-86-122    | 71-97-136    | 78-106-148   | 83-113-161   | 90-121-171   |
|                                  | 22.5° Sound         | --- / ---   | 14/14H      | 18/19H      | 25/26N      | 31/31N       | 36/37N       | 46/47N       | 50/50N       | 55/55N       | 59/59N       |
|                                  | 45° Throw           | 17-29-45    | 24-36-52    | 29-40-58    | 33-44-63    | 36-48-68     | 38-52-73     | 43-58-82     | 47-63-89     | 50-68-96     | 54-72-103    |
|                                  | 45° Sound           | 20/20H      | 29/31N      | 37/39N      | 42/42N      | 46/47N       | 50/51N       | 57/57N       | 62/62N       | 65/65N       | 68/68N       |
| <b>Flow (CFM)</b>                |                     | <b>3000</b> | <b>4000</b> | <b>5000</b> | <b>6000</b> | <b>7000</b>  | <b>8000</b>  | <b>10000</b> | <b>12000</b> | <b>14000</b> | <b>16000</b> |
| 48 x 30<br>10.00 ft <sup>2</sup> | 0° Throw            | 38-64-98    | 51-80-114   | 64-88-127   | 73-98-138   | 79-105-150   | 84-113-161   | 94-127-178   | 103-139-196  | 110-148-211  | 120-158-226  |
|                                  | 0° Sound            | --- / ---   | --- / ---   | --- / ---   | 21/21H      | 27/26N       | 32/31N       | 39/38N       | 46/45N       | 49/49N       | 52/52N       |
|                                  | 22.5° Throw         | 30-51-78    | 41-64-91    | 51-70-102   | 58-78-110   | 63-84-120    | 67-90-129    | 75-102-142   | 82-111-157   | 88-118-169   | 96-126-181   |
|                                  | 22.5° Sound         | --- / ---   | 14/14H      | 19/20H      | 25/26N      | 31/31N       | 36/37N       | 46/47N       | 51/51N       | 55/55N       | 59/59N       |
|                                  | 45° Throw           | 18-31-47    | 24-38-55    | 31-42-61    | 35-47-66    | 38-50-72     | 40-54-77     | 45-61-85     | 49-67-94     | 53-71-101    | 58-76-108    |
|                                  | 45° Sound           | 20/20H      | 29/31N      | 38/40N      | 42/42N      | 46/47N       | 50/51N       | 57/57N       | 62/62N       | 66/66N       | 69/69N       |
| <b>Flow (CFM)</b>                |                     | <b>3150</b> | <b>4200</b> | <b>5250</b> | <b>6300</b> | <b>7350</b>  | <b>8400</b>  | <b>10500</b> | <b>12600</b> | <b>14700</b> | <b>16800</b> |
| 42 x 36<br>10.50 ft <sup>2</sup> | 0° Throw            | 39-65-100   | 53-82-116   | 65-90-130   | 75-100-142  | 81-108-154   | 86-117-165   | 96-130-182   | 106-143-201  | 113-152-217  | 123-163-231  |
|                                  | 0° Sound            | --- / ---   | --- / ---   | --- / ---   | 21/21H      | 27/26N       | 32/31N       | 39/38N       | 46/45N       | 49/49N       | 52/52N       |
|                                  | 22.5° Throw         | 31-52-80    | 42-66-93    | 52-72-104   | 60-80-114   | 65-86-123    | 69-94-132    | 77-104-146   | 85-114-161   | 90-122-174   | 98-130-185   |
|                                  | 22.5° Sound         | --- / ---   | 14/14H      | 19/20H      | 25/26N      | 31/31N       | 36/37N       | 46/47N       | 51/51N       | 55/55N       | 59/59N       |
|                                  | 45° Throw           | 19-31-48    | 25-39-56    | 31-43-62    | 36-48-68    | 39-52-74     | 41-56-79     | 46-62-87     | 51-69-96     | 54-73-104    | 59-78-111    |
|                                  | 45° Sound           | 20/20H      | 29/31N      | 38/40N      | 42/42N      | 46/47N       | 50/51N       | 58/58N       | 62/62N       | 66/66N       | 69/69N       |
| <b>Flow (CFM)</b>                |                     | <b>3333</b> | <b>4444</b> | <b>5556</b> | <b>6667</b> | <b>7778</b>  | <b>8889</b>  | <b>11111</b> | <b>13333</b> | <b>15556</b> | <b>17778</b> |
| 40 x 40<br>11.11 ft <sup>2</sup> | 0° Throw            | 40-67-103   | 54-84-120   | 67-93-134   | 77-103-147  | 83-112-159   | 88-120-170   | 99-134-187   | 109-148-207  | 117-157-222  | 127-167-237  |
|                                  | 0° Sound            | --- / ---   | --- / ---   | --- / ---   | 21/21H      | 28/27N       | 32/31N       | 39/38N       | 46/45N       | 49/49N       | 52/52N       |
|                                  | 22.5° Throw         | 32-54-82    | 43-67-96    | 54-74-107   | 62-82-118   | 66-90-127    | 70-96-136    | 79-107-150   | 87-118-166   | 94-126-178   | 102-134-190  |
|                                  | 22.5° Sound         | --- / ---   | 14/14H      | 19/20H      | 25/26N      | 31/31N       | 36/37N       | 47/48N       | 51/51N       | 56/56N       | 59/59N       |
|                                  | 45° Throw           | 19-32-49    | 26-40-58    | 32-45-64    | 37-49-71    | 40-54-76     | 42-58-82     | 48-64-90     | 52-71-99     | 56-75-107    | 61-80-114    |
|                                  | 45° Sound           | 20/20H      | 30/32N      | 38/40N      | 43/43N      | 46/47N       | 50/51N       | 58/58N       | 63/63N       | 66/66N       | 69/69N       |
| <b>Flow (CFM)</b>                |                     | <b>3600</b> | <b>4800</b> | <b>6000</b> | <b>7200</b> | <b>8400</b>  | <b>9600</b>  | <b>12000</b> | <b>14400</b> | <b>16800</b> | <b>19200</b> |
| 48 x 36<br>12.00 ft <sup>2</sup> | 0° Throw            | 42-70-107   | 56-88-124   | 70-97-139   | 80-107-152  | 87-116-164   | 92-124-176   | 103-139-195  | 114-153-214  | 121-163-231  | 131-174-247  |
|                                  | 0° Sound            | --- / ---   | --- / ---   | --- / ---   | 22/22H      | 28/27N       | 33/32N       | 40/39N       | 47/46N       | 49/49N       | 53/53N       |
|                                  | 22.5° Throw         | 34-56-86    | 45-70-99    | 56-78-111   | 64-86-122   | 70-93-131    | 74-99-141    | 82-111-156   | 91-122-171   | 94-130-185   | 105-139-198  |
|                                  | 22.5° Sound         | --- / ---   | 15/15H      | 19/20H      | 26/27N      | 31/31N       | 37/38N       | 47/48N       | 51/51N       | 56/56N       | 60/60N       |
|                                  | 45° Throw           | 20-34-51    | 27-42-60    | 34-47-67    | 38-51-73    | 42-56-79     | 44-60-84     | 49-67-94     | 55-73-103    | 58-78-111    | 63-84-119    |
|                                  | 45° Sound           | 21/21H      | 30/32N      | 38/40N      | 43/43N      | 47/48N       | 51/51N       | 58/58N       | 63/63N       | 66/66N       | 70/70N       |
| <b>Flow (CFM)</b>                |                     | <b>3675</b> | <b>4900</b> | <b>6125</b> | <b>7350</b> | <b>8575</b>  | <b>9800</b>  | <b>12250</b> | <b>14700</b> | <b>17150</b> | <b>19600</b> |
| 42 x 42<br>12.25 ft <sup>2</sup> | 0° Throw            | 42-71-108   | 57-89-125   | 71-98-141   | 81-108-153  | 88-117-166   | 93-127-178   | 104-142-197  | 115-155-216  | 123-165-233  | 133-177-249  |
|                                  | 0° Sound            | --- / ---   | --- / ---   | --- / ---   | 22/22H      | 28/27N       | 33/32N       | 40/39N       | 47/46N       | 49/49N       | 53/53N       |
|                                  | 22.5° Throw         | 34-57-86    | 46-71-100   | 57-78-113   | 65-86-122   | 70-94-133    | 74-102-142   | 83-114-158   | 92-124-173   | 98-132-186   | 106-142-199  |
|                                  | 22.5° Sound         | --- / ---   | 15/15H      | 19/20H      | 26/27N      | 31/31N       | 37/38N       | 47/48N       | 51/51N       | 56/56N       | 60/60N       |
|                                  | 45° Throw           | 20-34-52    | 27-43-60    | 34-47-68    | 39-52-73    | 42-56-80     | 45-61-85     | 50-68-95     | 55-74-104    | 59-79-112    | 64-85-120    |
|                                  | 45° Sound           | 21/21H      | 30/32N      | 38/40N      | 43/43N      | 47/48N       | 51/52N       | 58/58N       | 63/63N       | 66/66N       | 70/70N       |
| <b>Flow (CFM)</b>                |                     | <b>4200</b> | <b>5600</b> | <b>7000</b> | <b>8400</b> | <b>9800</b>  | <b>11200</b> | <b>14000</b> | <b>16800</b> | <b>19600</b> | <b>22400</b> |
| 48 x 42<br>14.00 ft <sup>2</sup> | 0° Throw            | 45-76-116   | 61-95-134   | 76-105-150  | 87-116-164  | 94-125-178   | 100-134-190  | 111-150-211  | 123-165-231  | 130-176-249  | 142-188-267  |
|                                  | 0° Sound            | --- / ---   | --- / ---   | --- / ---   | 23/23H      | 29/28N       | 33/32N       | 41/40N       | 47/47N       | 50/50N       | 54/54N       |
|                                  | 22.5° Throw         | 36-61-93    | 49-76-107   | 61-84-120   | 70-93-131   | 75-100-142   | 80-107-152   | 89-120-169   | 98-132-185   | 104-141-199  | 114-150-214  |
|                                  | 22.5° Sound         | --- / ---   | 15/15H      | 19/20H      | 26/27N      | 32/33N       | 37/38N       | 47/48N       | 52/52N       | 57/57N       | 60/60N       |
|                                  | 45° Throw           | 22-36-56    | 29-46-64    | 36-50-72    | 42-56-79    | 45-60-85     | 48-64-91     | 53-72-101    | 59-79-111    | 62-84-120    | 68-90-128    |
|                                  | 45° Sound           | 21/21H      | 30/32N      | 39/41N      | 43/43N      | 47/48N       | 51/52N       | 59/59N       | 64/64N       | 67/67N       | 70/70N       |
| <b>Flow (CFM)</b>                |                     | <b>4600</b> | <b>6133</b> | <b>7667</b> | <b>9200</b> | <b>10733</b> | <b>12267</b> | <b>15333</b> | <b>18400</b> | <b>21467</b> | <b>24533</b> |
| 48 x 46<br>15.33 ft <sup>2</sup> | 0° Throw            | 47-79-122   | 64-100-141  | 79-110-158  | 91-121-172  | 98-131-186   | 104-141-198  | 116-158-220  | 128-173-241  | 136-184-261  | 148-197-279  |
|                                  | 0° Sound            | --- / ---   | --- / ---   | --- / ---   | 23/23H      | 30/29N       | 34/33N       | 41/40N       | 48/47N       | 50/50N       | 54/54N       |
|                                  | 22.5° Throw         | 38-63-98    | 51-80-113   | 63-88-126   | 73-97-138   | 78-105-149   | 83-113-158   | 93-126-176   | 102-138-193  | 109-147-209  | 118-158-223  |
|                                  | 22.5° Sound         | --- / ---   | 15/15H      | 20/21H      | 26/27N      | 32/32N       | 37/38N       | 48/49N       | 52/52N       | 57/57N       | 61/61N       |
|                                  | 45° Throw           | 23-38-59    | 31-48-68    | 38-53-76    | 44-58-83    | 47-63-89     | 50-68-95     | 56-76-106    | 61-83-116    | 65-88-125    | 71-95-134    |
|                                  | 45° Sound           | 21/21H      | 31/33N      | 39/41N      | 43/43N      | 47/48N       | 51/52N       | 59/59N       | 64/64N       | 68/68N       | 71/71N       |
| <b>Flow (CFM)</b>                |                     | <b>4800</b> | <b>6400</b> | <b>8000</b> | <b>9600</b> | <b>11200</b> | <b>12800</b> | <b>16000</b> | <b>19200</b> | <b>22400</b> | <b>25600</b> |
| 48 x 48<br>16.00 ft <sup>2</sup> | 0° Throw            | 48-81-124   | 65-101-143  | 81-112-160  | 92-124-175  | 100-134-190  | 106-144-203  | 118-161-225  | 131-177-246  | 139-188-266  | 152-201-286  |
|                                  | 0° Sound            | --- / ---   | --- / ---   | --- / ---   | 24/24H      | 30/29N       | 34/33N       | 41/40N       | 48/47N       | 50/50N       | 54/54N       |
|                                  | 22.5° Throw         | 38-65-99    | 52-81-114   | 65-90-128   | 74-99-140   | 80-107-152   | 85-115-162   | 94-129-180   | 105-142-197  | 111-150-213  | 122-161-229  |
|                                  | 22.5° Sound         | --- / ---   | 15/15H      | 20/21H      | 26/27N      | 32/32N       | 38/39N       | 48/49N       | 52/52N       | 57/57N       | 61/61N       |
|                                  | 45° Throw           | 23-39-60    | 31-48-69    | 39-54-77    | 44-60-84    | 48-64-91     | 51-69-97     | 57-77-108    | 63-85-118    | 67-90-128    | 73-96-137    |
|                                  | 45° Sound           | 22/22H      | 31/33N      | 39/41N      | 44/44N      | 47/48N       | 52/53N       | 59/59N       | 65/65N       | 68/68N       | 71/71N       |

**Notes on**

**Performance Data:**

- Performance data is based on tests conducted in accordance with ANSI/ASHRAE Standard 70-1991.
- Actual Performance in the field may vary.
- Testing was conducted in isothermal conditions.
- Sound level values are based on a room absorption of 10db re 10<sup>-12</sup> watts.
- A "----" indicates an NC value less than 10.

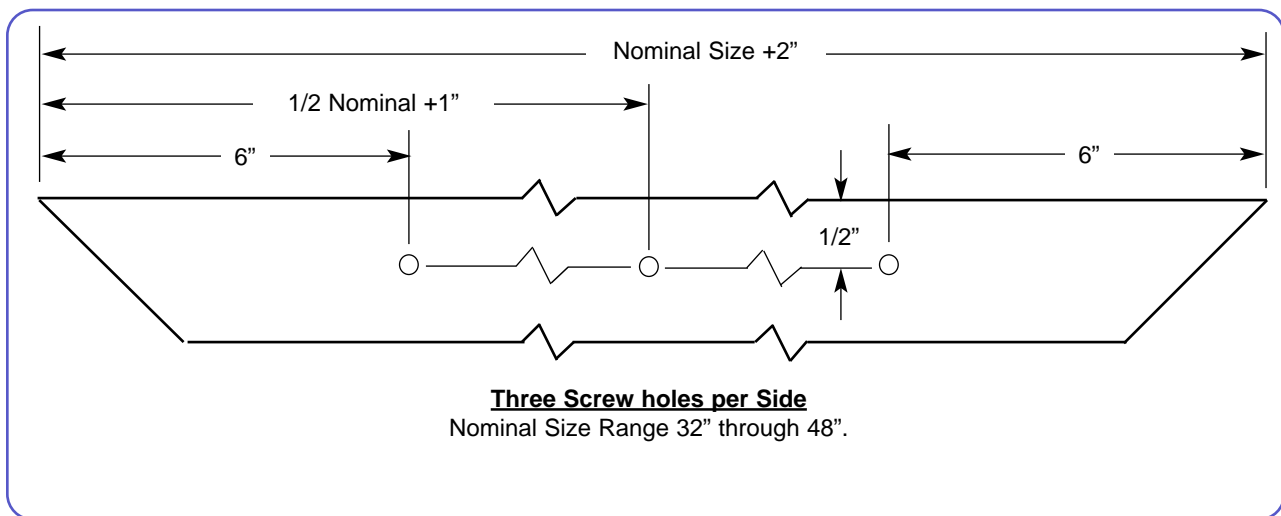
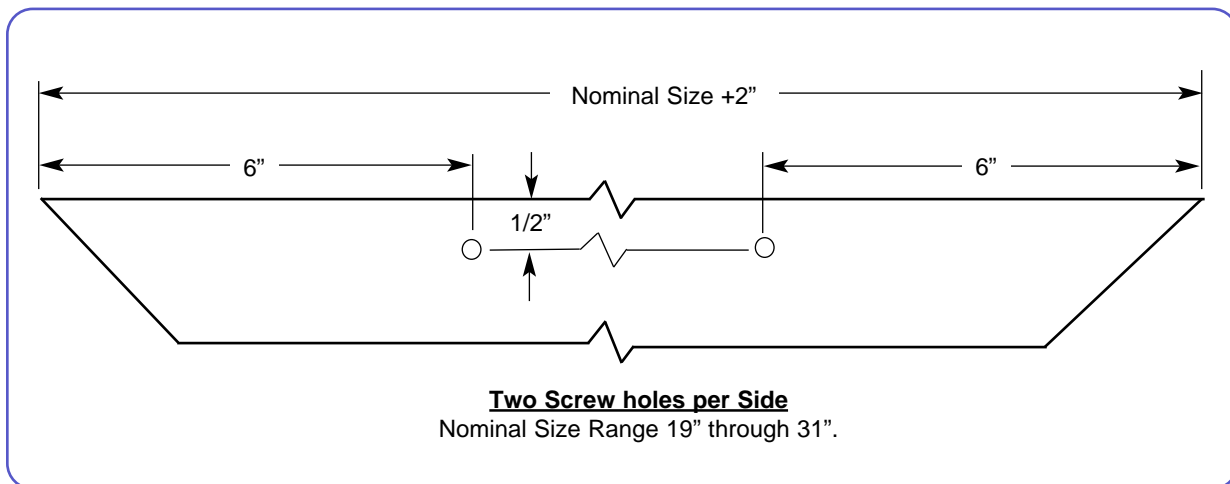
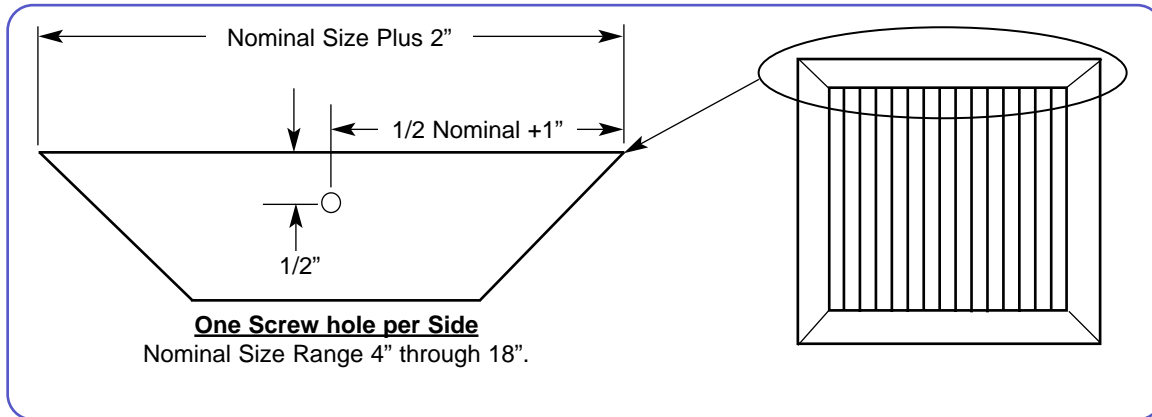
**Units of**

**Measure Used:**

- Velocity is given in Feet per Minute (fpm).
- Pressure is given in inches of Water (w.g.)
- Flows are given in Cubic Feet per Minute (CFM).
- Throws are given in feet to terminal velocities of 150, 100 and 50 fpm, respectively.
- Sound data is given in both NC and RC. NC is first with RC second, separated by a slash.

## Screw Hole Location on Steel Registers and Grilles

- Screw holes on the face are standard on Registers and Grilles.
- Steel R&G can be ordered without screw holes, for use with concealed hangers.
- The screw hole is 5/32" in diameter, counter sunk.
- Each Register or Grille is provided with the appropriate number of screws as standard.
- The standard screw is a #8 x 1-1/4" counter sunk screw, with a flat blade head.
- Tamper-proof screws are available as an option.

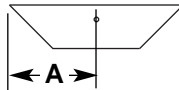


**Screw Hole Location for the following Registers & Grilles**

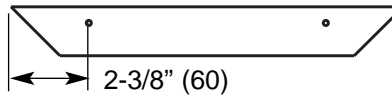
40° Return RSHA, RTHA  
 0° Return RSEA, RTEA

**Hole location for long side (if grille is rectangular) or opposite sides (if grille is square).**

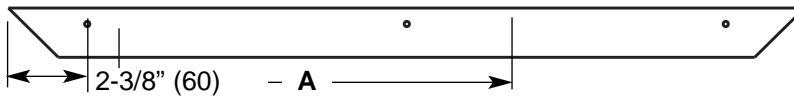
|                 |          |          |          |
|-----------------|----------|----------|----------|
| Nominal Size -> | 4" (102) | 6" (152) | 8" (203) |
| Dim. "A" ->     | 3" (76)  | 4" (102) | 5" (127) |



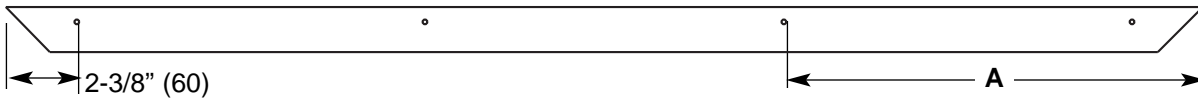
|                 |           |           |           |           |           |           |
|-----------------|-----------|-----------|-----------|-----------|-----------|-----------|
| Nominal Size -> | 10" (254) | 12" (305) | 14" (356) | 16" (406) | 18" (457) | 20" (508) |
|-----------------|-----------|-----------|-----------|-----------|-----------|-----------|



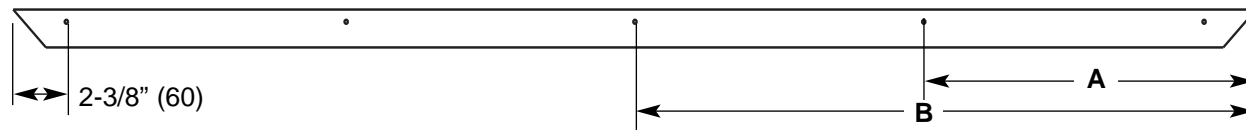
|                 |           |           |           |           |           |           |           |           |
|-----------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Nominal Size -> | 22" (559) | 24" (610) | 26" (660) | 28" (711) | 30" (762) | 32" (813) | 34" (864) | 36" (914) |
| Dim. "A" ->     | 12" (305) | 13" (330) | 14" (356) | 15" (381) | 16" (406) | 17" (432) | 18" (457) | 19" (483) |



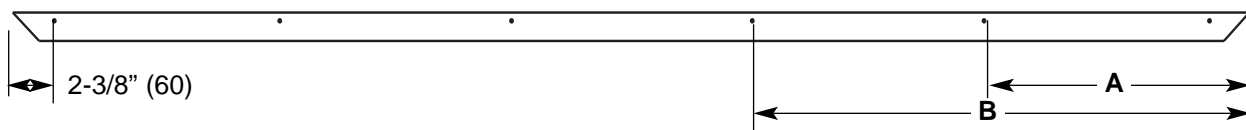
|                 |           |            |               |            |            |               |            |            |
|-----------------|-----------|------------|---------------|------------|------------|---------------|------------|------------|
| Nominal Size -> | 38" (965) | 40" (1016) | 42" (1067)    | 44" (1118) | 46" (1168) | 48" (1219)    | 50" (1270) | 52" (1321) |
| Dim. "A" ->     | 14" (356) | 15" (381)  | 15 1/2" (394) | 16" (406)  | 17" (432)  | 17 1/2" (445) | 18" (457)  | 19" (483)  |



|                 |            |               |            |               |            |               |            |               |
|-----------------|------------|---------------|------------|---------------|------------|---------------|------------|---------------|
| Nominal Size -> | 54" (1372) | 56" (1422)    | 58" (1473) | 60" (1524)    | 62" (1575) | 64" (1626)    | 66" (1676) | 68" (1727)    |
| Dim. "A" ->     | 15" (381)  | 15 1/2" (394) | 16" (406)  | 16 1/2" (419) | 17" (432)  | 17 1/2" (445) | 18" (457)  | 18 1/2" (470) |
| Dim. "B" ->     | 28" (711)  | 29" (737)     | 30" (762)  | 31" (787)     | 32" (813)  | 33" (838)     | 34" (864)  | 35" (889)     |



|                 |               |            |
|-----------------|---------------|------------|
| Nominal Size -> | 70" (1778)    | 72" (1829) |
| Dim. "A" ->     | 15 1/2" (394) | 16" (406)  |
| Dim. "B" ->     | 29" (737)     | 30" (762)  |

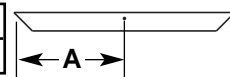


**Hole Location for other sides.**

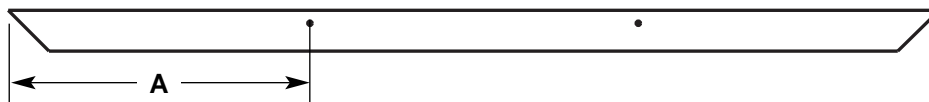
|                 |                |          |          |           |           |           |
|-----------------|----------------|----------|----------|-----------|-----------|-----------|
| Nominal Size -> | 4" (102)       | 6" (152) | 8" (203) | 10" (254) | 12" (305) | 14" (356) |
|                 | No Screw Holes |          |          |           |           |           |



|                 |           |           |           |           |           |           |           |           |
|-----------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Nominal Size -> | 16" (406) | 18" (457) | 20" (508) | 22" (559) | 24" (610) | 26" (660) | 28" (711) | 30" (762) |
| Dim. "A" ->     | 9" (229)  | 10" (254) | 11" (279) | 12" (305) | 13" (330) | 14" (356) | 15" (381) | 16" (406) |



|                 |           |           |           |           |            |            |            |            |            |
|-----------------|-----------|-----------|-----------|-----------|------------|------------|------------|------------|------------|
| Nominal Size -> | 32" (813) | 34" (864) | 36" (914) | 38" (965) | 40" (1016) | 42" (1067) | 44" (1118) | 46" (1168) | 48" (1219) |
| Dim. "A" ->     | 11" (279) | 12" (305) | 13" (330) | 13" (330) | 14" (356)  | 15" (381)  | 16" (406)  | 16" (406)  | 17" (432)  |



**Notes:**

- Standard screws are #8 x 1-1/4" (32) Phillips head sheet metal screws.
- Holes are countersunk for flush appearance.
- Hole center is placed 1/2" (13) in from outside edge.
- Metric (SI) dimensions are given in millimeters.





**Panel for T-bar Ceiling (Option T)**

**Application**

This option is used when the grille is to mount in a suspended ceiling, but is too small to lay in by itself. The grille is set in a panel that will lay into the appropriate size and type of ceiling.

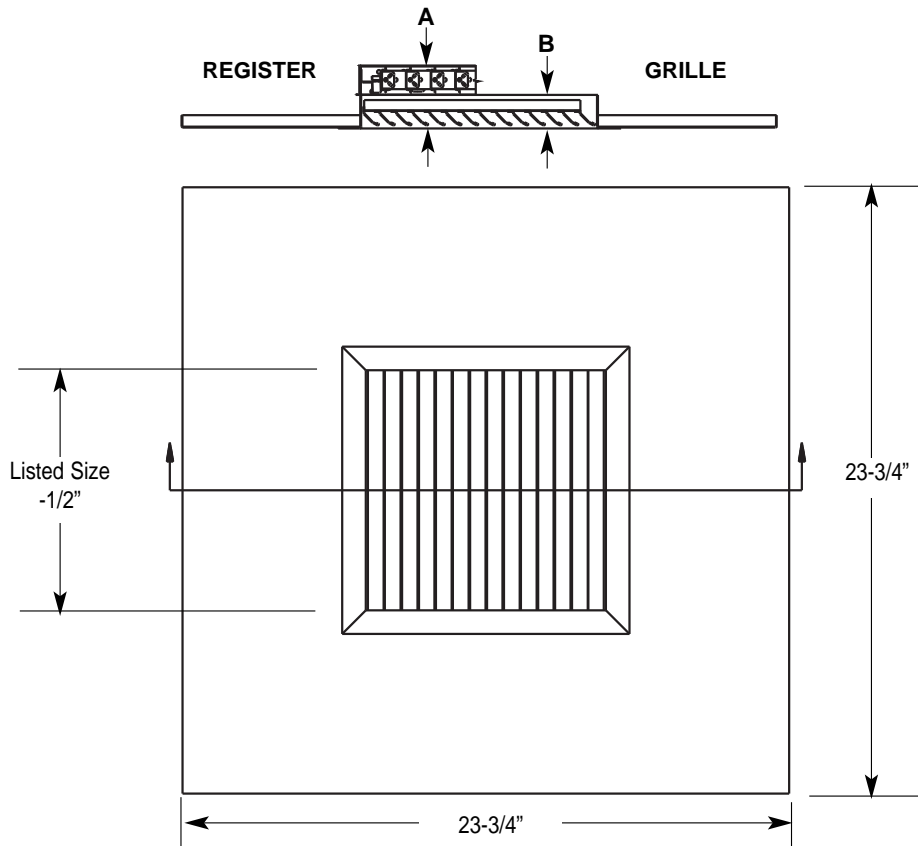
**Features**

The largest grille in this catalog that will fit in the following T-bar grid sizes is as follows:

| T-bar Grid | Maximum Grille Nominal Size   |
|------------|---|
| 12" x 12"  | 8" x 8"   |
| 12" x 24"  | 8" x 20"  |
| 24" x 24"  | 20" x 20"   |
| 24" x 48"  | 20" x 44" (Louvered and Perforated Face Returns)                          |
| 24" x 48"  | 20" x 36" (Single and Double Deflection Supplies, and 0° and 45° Returns) |

**Sizing Note:**

Carnes offers all steel, stainless steel and B-series aluminum grilles in a nominal 21-3/4" x 21-3/4" size that lays into standard 15/16" flat face T-bar with no need for Option T.



**Sheared Frame for T-bar (Option S)**

**Application**

This option is used when the grille is sized to lay into a suspended ceiling, and the design requires the largest possible grille for the opening.

**Features**

When this option is specified on the following sizes, Carnes shears the grille frame down to the following face outside diameters for layin ceilings.

| Grille Nominal Size | Normal Face O. D. | Sheared Face O. D. |
|---------------------|-------------------|--------------------|
| 10" x 10"           | 12" x 12"         | 11-3/4" x 11-3/4"  |
| 10" x 22"           | 12" x 24"         | 11-3/4" x 23-3/4"  |
| 22" x 22"           | 24" x 24"         | 23-3/4" x 23-3/4"  |
| 22" x 46"           | 24" x 48"         | 23-3/4" x 47-3/4"  |

(Note: This size is only available on steel and B-series aluminum louvered and perforated face returns)

**Sizing Note:**

Carnes offers all steel, stainless steel and B-series aluminum grilles in a nominal 21-3/4" x 21-3/4" size that lays into standard 15/16" flat face T-bar with no need for Option S.

**No Screw Holes (Option N)**

**Application**

This option is used when the grille is sized to lay into a suspended ceiling, and screw holes are therefore not needed, or when the installation requires custom placement of the screw holes.

**Features**

When this option is specified, Carnes manufactures the grille with no screw holes in the face.

**Tamper-Proof Screws (Option B)**

**Application**

This option is used to prevent casual access to the duct.

**Features**

- The screw used is Holt-Head Type A tamper-proof screw, size #8 x 1-1/4".
- Hand drivers, service drivers and power driver tips are available from Carnes.

**Z-Clips for Spline Ceiling (Option Z)**

**Application**

This is used to mount certain grille sizes in concealed spline ceilings.

**Features**

The option is applied to any of the steel, stainless steel and B-series aluminum grilles in the following nominal sizes to mount in the following concealed spline ceiling sizes:

| <u>Grille Nominal Size</u> | <u>Spline Ceiling Size</u> |
|----------------------------|----------------------------|
| 10" x 10"                  | 12" x 12"                  |
| 10" x 22"                  | 12" x 24"                  |
| 22" x 22"                  | 24" x 24"                  |

**Sizing Note:**

- Screw holes are automatically deleted when Option Z is specified.
- For grille sizes smaller than shown, custom mounting panels are available on request.

**W-Clips for Snap-in Metal Pan Ceiling (Option U)**

**Application**

This option is used to mount certain grille sizes in snap-in metal pan ceilings.

**Features**

This option is applied to any of the steel, stainless steel and B-series aluminum grilles in the following nominal sizes to mount in the following snap-in metal pan ceilings.

| <u>Grille Nominal Size</u> | <u>Snap-in Metal Pan Ceiling Size</u> |
|----------------------------|---------------------------------------|
| 22" x 22"                  | 24" x 24"                             |
| 10" x 22"                  | 12" x 24"                             |

- Screw holes are automatically deleted when Option U is specified.
- For grille sizes smaller than shown, custom mounting panels are available on request.

**NOTES:**

**Debris Screen (Option 1)**

**Application**

This option is used to prevent insects from getting through the grille, either into the duct or into the room.

**Features**

- The material used is 1814 insect screen.
- This option is available on both grilles and registers.

**Concealed Hangers (Option C)**

**Application**

This option is used to provide concealed mounting and tools-free duct access.

**Features**

- It requires that the duct be made 1" larger than the nominal grille size.
- If the duct is already installed, as in retro-fits, sizing the grille down by 1" will accomplish the same thing.
- Screw holes are automatically deleted when Option C is specified.
- A spring is factory-mounted on the back of the flange, and this spring snaps into a mounting bracket that is field mounted in the duct opening.

**Pull Cord Damper Operator (Options P and A)**

**Application**

This option allows balancing when the damper is mounted upstream of the grille, and the only access to the damper is through the grille.

**Features**

- Heavy duty cord is permanently mounted to damper.
- Cord ends are tucked behind grille face after balancing.
- Option P is used when the damper is mounted parallel to the floor.
- Option A is used when the damper is mounted perpendicular to the floor.

**Lever Operator (Option V)**

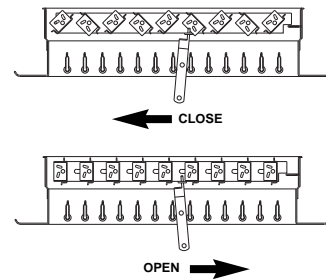
**Application**

This option allows tools-free balancing from the face of the register.

**Features**

- Lever is permanently mounted to register.
- Option V is available on these models:

|                          | <u>Steel</u> | <u>Aluminum</u> | <u>Stainless Steel</u> |
|--------------------------|--------------|-----------------|------------------------|
| Single Deflection Supply | RTSB         | RNSM            | RMSB                   |
| Double Deflection Supply | RTDB         | RNDM            | RMDB                   |
| 0° Fixed Return          | RTRB         | RNRM            | RMRB                   |
| 45° Fixed Return         | RTAB         | RNAM            | RMAB                   |



**Fusible Link for Register (Option F)**

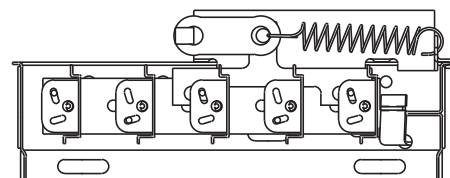
**Application**

Fusible links are general used in hazardous locations to prevent the possible spread of fire or reduce updrafts in case of fire. They are not UL-listed as fire dampers.

**Features**

- The link melts at approximately 160° Fahrenheit, activating a spring which pulls the damper closed.
- A link is mounted to each damper in a multi-damper assembly.
- The link does not interfere with the normal setting of the damper, but requires one inch of added depth in the duct.

Square/Rectangular Damper Model RXEA shown with Fusible Link installed.



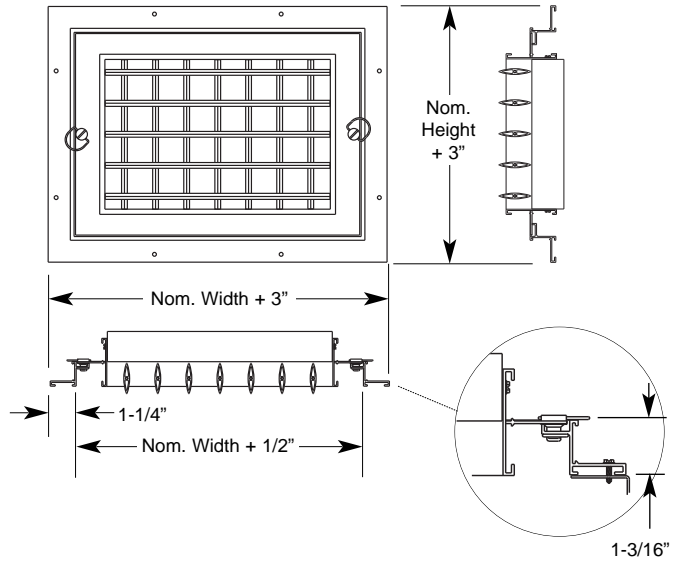
Option "M" for 1-1/2" Double Deflection  
Supply Grille Model R&G

**Application:**

Use with the Double Deflection 1-1/2" Supply Grille when frequent or regular removal is required, either for cleaning or periodic alteration of the discharge.

**Standard Features:**

- All extruded aluminum construction
- Grille is held to frame by 1/4-turn fasteners.
- Standard finish is #20 mill finish.



**NOTES:**