CEILING AND INLINE/CABINET VENTILATORS

MODELS AF, FF & FFC

CAT-FF-063020
Ceiling-and-inline-cabinet-ventilators
June 2020
MODEL OVERVIEW
The extremely quiet FF and FFC ventilators are available from 50 to 3600 CFM, with static pressure capabilities to 1”. All units have centrifugal blower wheels and low RPM motors on resilient mounts (except FF50 and AF80).

The forward curved centrifugal wheel with its high static pressure capability makes these ventilators suitable for either ducted or nonducted applications. They include removable blower assemblies and plug-in permanently lubricated motors for ease of servicing and cleaning.

1 year fan housing warranty, 1 year motor warranty

MODELS AF, FF & FFC
CEILING AND INLINE/CABINET VENTILATORS

MODEL AF, FF FEATURES
• Exhaust air up to 1500 CFM
• Forward curve centrifugal wheel for high static pressure capabilities to 1” w.g.
• Resilient mount, low RPM motor for quiet operation (except FF50 and AF80)
• Speed controllable
• AMCA Seal for Air Performance (except FF50)
• cULus Listed (except FF50 & AF80 which are UL only)

MODEL FFC FEATURES
• Exhaust air up to 3600 CFM
• Forward curve centrifugal wheel for high static pressure capabilities to 1” w.g.
• Resilient mount, low RPM motor for quiet operation
• Speed controllable
• AMCA Seal for Air Performance
• cULus Listed

Models FF and FFC are available in our Quickship program. All sizes are available for next day shipping from stock.
CONSTRUCTION/SPECIFICATION CHECKLIST

Grille
• Conceals interior.
• Low profile styling, blends with any decor.
• White polymeric (FF50 - FF300).
• Metal finished with white enamel finish (FF400-FF1500).

Blower
• Low RPM for quiet operation, speed controllable.
• Resilient anti-vibration mounts (FF50 & AF80 rigid mount).
• Balanced, polymeric, centrifugal blower wheel for quiet, efficient performance. (Metal wheel on FFC2000 & FFC3500).
• Permanently lubricated, thermally protected motor.
• Plug-in motor.
• Designed for continuous operation.

Housing
• Rugged, 20 gauge galvanized steel.
• Duct connector.
• 1/2" acoustic insulation inside (except FF50, AF80 & FFC's).
• Integral automatic backdraft damper.
• Easy inline conversion available (FF100-FF1500).
• May be installed in ceiling or wall.
• Mounting brackets for easy installation and adaptability to numerous mounting requirements.
• Factory-shipped in horizontal discharge position, easily converted to vertical discharge.
• FFC inline units have a removable panel which allows for easy motor access without disturbing ductwork.

AMCA Seal
• AMCA Air and Sound Licensed (except FF50)

UL Label
• cULus listed (except FF50 & AF80 which are UL only).
OPTIONS/ACCESSORIES

Roof Cap and Wall Cap
• Weather resistant duct termination.

Inline Adapter Kit
• Converts FF units into inline units.
• Available for FF100 through FF1500

Radiation Damper
• UL rated for use in 1, 2, or 3 hour rated floor-ceiling, roof-ceiling design.
• Mounts directly to the fan, screws provided.
• Galvanized steel frame.
• High temperature, non-asbestos, reinforced fiber thermal fabric.
• 212°F fusible link.
• Stainless steel negator-type closure spring.
• Available for FF100 through FF1500.

Metal Grille Kit
• White enamel painted steel.
• Mounting screws included.

Duct Transition
• Allows for quick transition to round ducting.
• Galvanized steel construction.

Vibration Dampening Hangers
• Rubber in shear.
• Heavy-gauge steel construction with neoprene vibration dampening cushion.
• For use with 3/8" threaded rod (by others).

Damper Kit (for FFC 2000 and FFC 3500)
• Twin damper flaps and mounting hardware.
• Foam cushion and magnetic catch assure quiet backdraft prevention.
961L In-Line Adaptor Kit
- Galvanized steel
- Fits FF100 & FF150
- For 6" round duct intake

982L In-Line Adaptor Kit
- Galvanized steel
- Fits FF400, FF500 & FF700
- 4 1/2 x 18 1/2" duct intake

981L In-Line Adaptor Kit
- Galvanized steel
- Fits FF200, FF250 & FF300
- For 8" round duct intake

983 In-Line Adaptor Kit
- Galvanized steel
- Fits FF900 & FF1500
- 8" x 12" round duct intake

Model 441 Wall Cap
- Gravity dampers
- Collar with birdscreen for attaching 10" round duct
- Steel construction with aluminum louvers

Model 613 Wall Cap
- High Capacity
- Built-in backdraft damper & birdscreen
- Aluminum natural finish
- For 12" round duct

Model 641 Wall Cap
- Aluminum natural finish
- Built-in backdraft damper & birdscreen
- For 6" round duct

Model 642 Wall Cap
- Aluminum natural finish
- Built-in backdraft damper
- For 3" or 4" round duct
  (4" to 3" transition included)

Model 643 Wall Cap
- Aluminum natural finish
- Built-in backdraft damper
- For 8" round duct

Model 437 Roof Cap
- High capacity design - up to 1200 CFM
- Built-in spring-loaded backdraft damper & birdscreen
- Steel, black electrically bonded epoxy finish

Model 636 Roof Cap
- Black electrically bonded epoxy finish
- Built-in backdraft damper & birdscreen
- For 3" or 4" round duct

Model 636AL - Aluminum

Model 634 Roof Cap
- Black electrically bonded epoxy finish
- Built-in backdraft damper & birdscreen
- For 3 1/4" x 10" or up to 8" round duct

Model 644 - Aluminum
MODELS FF & FFC
CEILING AND INLINE/CABINET VENTILATORS

OPTIONS/ACCESSORIES (cont.)

Speed Control
- Adjust speed from 100 to 50%
- 5 amp & 10 amp - 120V
- 6 amp - 240V
- 6 amp - 277V

Model RCXIISSF08 Flat Roof Cap
- For flat roof installation
- Spun Aluminum - natural finish
- Built-in birdscreen
- For up to 8” round duct

Model RCXIISSF08 Curb Mount Roof Cap
- For curb mount installation
- Use 14-3/4” x 14-3/4” x 8” high curb
- Spun Aluminum - natural finish
- Built-in birdscreen
- For up to 8” round duct

Model RCXII12 Flat Roof Cap
- For flat roof installation
- Spun Aluminum - natural finish
- Built-in birdscreen
- For up to 12” round duct

Model RCXII12 Curb Mount Roof Cap
- For curb mount installation
- Use 22-1/4” x 22-1/4” x 8” high curb.
- Spun Aluminum - natural finish
- Built-in birdscreen
- For up to 12” round duct

Model MG 1 Metal Grille Kit
- White enamel painted steel
- Mounting screws included
- Fits FF100, FF150, FF200, FF250 & FF300

Models RD1, RD2 & RD3 Radiation Dampers
- UL rated for use in 1, 2 or 3 hour rated floor-ceiling, roof-ceiling design
- Galvanized steel frame
- High temperature, non-asbestos, reinforced fiber thermal fabric
- 212°F fusible link
- Stainless steel negator-type closure spring
- RD1 (12 1/4” x 12 1/4”) fits FF100 - FF300
- RD2 (211/2” x 18”) fits FF400 - FF700
- RD3 (22” x 18”) fits FF900 - FF1500

Model RD80AF Radiation Damper
- UL rated for use in 1, 2 or 3 hour rated floor-ceiling, roof-ceiling design
- Galvanized steel frame
- High temperature, non-asbestos, reinforced fiber thermal fabric
- 165°F fusible link
- Stainless steel closure springs
- RD80AF fits AF80

Models 423 & T81212 Duct Transitions
- Galvanized steel
- Allows for quick transition to easy-to-obtain-and-install round ducting
- 423 (4 1/2” x 18” to 10 round) for use with FF400 thru FF700
- T81212 (8” x 12” to 12” round) for use with FF900 and FF1500

Models RCXII - 18” and 20” units

<table>
<thead>
<tr>
<th>Size</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
</tr>
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<tbody>
<tr>
<td>18</td>
<td>19</td>
<td>29.5</td>
<td>22</td>
<td>27</td>
</tr>
<tr>
<td>20</td>
<td>21</td>
<td>29.5</td>
<td>22</td>
<td>30</td>
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<tr>
<td>OPTIONAL ACCESSORY COMPATIBILITY CHART</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>----------------------------------------</td>
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</table>
| **MODELS FF & FFC**
**CEILING AND INLINE/CABINET VENTILATORS** |

<table>
<thead>
<tr>
<th>VARIABLE SPEED CONTROLS</th>
<th>CEILING MOUNT MODEL FF</th>
<th>IN-LINE/CABINET MODEL FFC</th>
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<tbody>
<tr>
<td>2727.1 (5 AMP 120V)</td>
<td>X X X X</td>
<td>X</td>
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<tr>
<td>2828.1 (10AMP 120V)</td>
<td>X X X X X X X X</td>
<td>X</td>
</tr>
<tr>
<td>80L in-unit speed control (3 amp 120 Volt) Ships separately for field mounting</td>
<td>X X X</td>
<td>X X X</td>
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<td>75V (240V)</td>
<td>X X X X X</td>
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<tr>
<td>277V (277V)</td>
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**ROOF CAPS**

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<tr>
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<td>RCXII08, RCXIIISF08</td>
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<td>RCXII12, RCXIIISF12</td>
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<td>634M</td>
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<td>634, 644</td>
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<td>636, 636AL</td>
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<td>RCXII18</td>
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<td>RCXII20</td>
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**WALL CAPS**

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<td>641</td>
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**IN-LINE ADAPTERS**

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<th>961L</th>
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<td>981L</td>
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<td>982L</td>
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**UL RADIATION DAMPERS**

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<td>RD2</td>
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<td>RD3</td>
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<tr>
<td>RD for AF80</td>
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**METAL Grille KIT**

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<tr>
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<th>G102</th>
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<tbody>
<tr>
<td>G103</td>
<td>X</td>
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<tr>
<td>MG1</td>
<td>X X</td>
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**DUCT TRANSITIONS**

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<tr>
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<td>T81212</td>
<td>X X</td>
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**DAMPER KITS**

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**VIBRATION DAMPENING HANGERS (4)**

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<tr>
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<th>V102*</th>
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<table>
<thead>
<tr>
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<th>V104</th>
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<td>X X X X X X X X</td>
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* Compatible with AF80 but not FF50
### FF CEILING VENTILATORS

#### MODEL FF PERFORMANCE

<table>
<thead>
<tr>
<th>MODEL FF</th>
<th>CFM / Sones at Static Pressure (PS - Inches of H₂O)</th>
<th>AMPS @ 60HZ/ WATTS</th>
<th>RPM @ 1/8</th>
<th>Voltage</th>
<th>Average Ship Wt. Lbs</th>
</tr>
</thead>
<tbody>
<tr>
<td>50</td>
<td>52/49 47/29 - - - - 4.3/5.5 3.8/5.5 - - - - 3.2/5.5 2.8/5.5 - - - -</td>
<td>0.8/48 1870 120 4</td>
<td></td>
<td></td>
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<tr>
<td>100</td>
<td>136/115 93/65 4.4/4.5 3.9/4.5 3.4/4.5 3.0/4.5 2.6/4.5 2.2/4.5 - - - - 1.8/4.5 - - - -</td>
<td>1.1/87 640 120 23</td>
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<tr>
<td>150</td>
<td>181/161 141/124 4.6/4.7 4.1/4.7 3.6/4.7 3.2/4.7 2.8/4.7 2.4/4.7 - - - - 1.3/4.7 - - - -</td>
<td>1.3/100 710 120 23</td>
<td></td>
<td></td>
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<tr>
<td>200</td>
<td>231/214 196/186 177/165 144/113 51/49 47/45 - - - - - - - - - - - -</td>
<td>1.8/127 740 120 23</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>250</td>
<td>272/261 250/242 233/218 201/165 99/95 - - - - - - - - - - - -</td>
<td>2.1/166 830 120 23</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>300</td>
<td>312/309 296/287 273/254 219/125 - - - - - - - - - - - -</td>
<td>2.6/212 905 120 23</td>
<td></td>
<td></td>
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<tr>
<td>400</td>
<td>480/442 388/344 299/229 182/114 - - - - - - - - - - - -</td>
<td>1.4/146 735 120 34</td>
<td></td>
<td></td>
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<tr>
<td>500</td>
<td>538/520 491/463 434/389 339/282 - - - - - - - - - - - -</td>
<td>2.2/232 810 120 34</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>700</td>
<td>722/704 667/640 607/571 534/453 - - - - - - - - - - - -</td>
<td>2.9/313 960 120 34</td>
<td></td>
<td></td>
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<tr>
<td>900</td>
<td>918/905 877/842 793/725 636/536 - - - - - - - - - - - -</td>
<td>3.0/306 650 120 64</td>
<td></td>
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<tr>
<td>1500</td>
<td>1578/1526 1438/1371 1285/1198 1103/1000 816/735 - - - - - - - - - - - -</td>
<td>5.0/468 955 120 64</td>
<td></td>
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</tbody>
</table>

Model FF50 is not AMCA certified for Air & Sound

### MODEL AF80

#### AMCA Certified Performance

<table>
<thead>
<tr>
<th>AMPS @ 60HZ/WATTS</th>
<th>CFM / Sones at Static Pressure (in wc)</th>
<th>Volts</th>
<th>Nominal (RPM)</th>
<th>Duct Size</th>
<th>Average Ship Wt. (lbs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.3/27</td>
<td>89/79 72/65 58/51 44/36 - - - -</td>
<td>120</td>
<td>1,110</td>
<td>4&quot; Round</td>
<td>8</td>
</tr>
</tbody>
</table>

Performance ratings include the effects of inlet grille and backdraft damper. Speed (RPM) shown is nominal. Performance is based on actual speed of test. The sound ratings shown are loudness values in fan sones at 5’ (1.5m) in a hemispherical free field calculated per AMCA Standard 301. Values shown are for installation Type B: Free inlet fan sone levels. Performance certified is for installation Type B: Free inlet, Ducted outlet.

#### HVI Certified Performance

<table>
<thead>
<tr>
<th>AMPS @ 60HZ/WATTS</th>
<th>CFM / Sones at Static Pressure (in wc)</th>
<th>0.1</th>
<th>0.25</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.3/27</td>
<td>80/60 - - - - - - - - - - - - - - - -</td>
<td>2.1</td>
<td>-</td>
</tr>
</tbody>
</table>
## FFC PERFORMANCE

### FFC INLINE/CABINET VENTILATORS

<table>
<thead>
<tr>
<th>MODEL FFC</th>
<th>CFM / Sones at Static Pressure (PS - Inches of H₂O)</th>
<th>AMPS @ 60HZ/ WATTS</th>
<th>RPM @ 1/8</th>
<th>Voltage</th>
<th>Average Ship Wt. Lbs.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0 1/10 1/8 1/4 3/8 1/2 5/8 3/4 7/8 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>100</td>
<td>121 108 106 97 93 86 70 44 - -</td>
<td>1.0/87</td>
<td>760</td>
<td>120</td>
<td>23</td>
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<tr>
<td>150</td>
<td>153 148 147 140 134 125 111 91 54 -</td>
<td>1.3/100</td>
<td>920</td>
<td>120</td>
<td>23</td>
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<tr>
<td>200</td>
<td>205 196 195 190 185 175 158 135 96 47</td>
<td>1.8/127</td>
<td>865</td>
<td>120</td>
<td>23</td>
</tr>
<tr>
<td>250</td>
<td>248 245 245 241 235 224 208 183 141 84</td>
<td>2.1/166</td>
<td>1005</td>
<td>120</td>
<td>23</td>
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<tr>
<td>300</td>
<td>300 294 293 285 274 259 243 214 168 113</td>
<td>2.6/212</td>
<td>1145</td>
<td>120</td>
<td>23</td>
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<tr>
<td>400</td>
<td>450 415 406 360 313 271 223 167 90 6.0</td>
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<td>775</td>
<td>120</td>
<td>34</td>
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<tr>
<td>500</td>
<td>546 526 519 496 472 447 407 364 306 232</td>
<td>2.2/232</td>
<td>890</td>
<td>120</td>
<td>34</td>
</tr>
<tr>
<td>700</td>
<td>704 686 681 656 631 604 575 533 480 412</td>
<td>2.9/313</td>
<td>1090</td>
<td>120</td>
<td>34</td>
</tr>
<tr>
<td>900</td>
<td>930 902 894 853 807 754 685 587 442 300</td>
<td>3.0/306</td>
<td>810</td>
<td>120</td>
<td>64</td>
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<tr>
<td>1500</td>
<td>1275 1228 1214 1152 1092 1029 958 871 764 631</td>
<td>5.0/468</td>
<td>1055</td>
<td>120</td>
<td>64</td>
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</tbody>
</table>

Performance ratings include the effects of backdraft damper. Speed (RPM) shown is nominal. Performances based on actual speed of test. The sound ratings shown are loudness values in fan sones at 5' (1.5m) in a hemispherical free field calculated per AMCA Std. 301. Values shown are for installation Type D: ducted inlet fan sone levels. Ratings do not include the effect of duct end correction. Performance ratings include the effects of 18 feet of round inlet duct and, if needed, a rectangular to round duct transition in the airstream. Performance certified is for Installation Type D; Ducted inlet, Ducted outlet.

### FFC CABINET VENTILATORS

<table>
<thead>
<tr>
<th>MODEL FFC</th>
<th>CFM / Sones at Static Pressure (PS - Inches of H₂O)</th>
<th>AMPS @ 60HZ/ WATTS</th>
<th>RPM @ 1/8</th>
<th>Voltage</th>
<th>Average Ship Wt. Lbs.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0 1/10 1/8 1/4 3/8 1/2 5/8 3/4 7/8 1</td>
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<tr>
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<td>1891 1803 1791 1657 1508 1347 1165 808 - -</td>
<td>5.8/590</td>
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<td>120</td>
<td>92</td>
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<td>3605 3498 3452 3278 3073 2983 2679 2429 2093 1693</td>
<td>5.4/1205</td>
<td>1105</td>
<td>240</td>
<td>139</td>
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</table>

Performance ratings do not include the effects of appurtenances (accessories). Speed (RPM) shown is nominal. Performance is based on actual speed of test. The sound ratings shown are loudness values in fan sones at 5' (1.5m) in a hemispherical free field calculated per AMCA Std. 301. Values shown are for installation Type D: ducted inlet fan sone levels. Ratings do not include the effect of duct end correction. Performance certified is for Installation Type D: Ducted inlet, Ducted outlet.
DIMENSIONS

CEILING VENTILATOR

FF50

3" ROUND DUCT CONNECTOR

FF200, 250 & 300

8" ROUND DUCT CONNECTOR

FF400, 500 & 700

4 1/2" x 18 1/2" DUCT CONNECTOR

FF100 & 150

6" ROUND DUCT CONNECTOR

FF900 & 1500

6" x 12" DUCT CONNECTOR

INLINE/CABINET VENTILATOR

FFC100 & 150

6" ROUND DUCT CONNECTOR

FFC200, 250 & 300

8" ROUND DUCT CONNECTOR

FFC400, 500 & 700

4 1/2" x 18 1/2" DUCT CONNECTOR

FFC900 & 1500

8" x 12" DUCT CONNECTOR

FFC2000

FFC3500
ff ceiling ventilators quick selection guide

models af80, ff50, 100, 150, 200, 250, 300, 400, 500, 700, 900, and 1500 performance certified is for installation type b: free inlet, ducted outlet. performance ratings include the effects of inlet grille and backdraft damper.
FF & FFC QUICK SELECTION GUIDELINES

1. Locate desired CFM on bottom horizontal axis of graph.

2. Locate system static pressure on left vertical axis of graph.

3. Determine intersection of CFM and static pressure.

4. Select fan curve to the right of this intersection.

5. Solid state speed control may be used for selections left of curve, up to 50% CFM reduction.

MODELS FF & FFC CEILING AND INLINE/CABINET VENTILATORS

FFC INLINE/CABINET VENTILATORS QUICK SELECTION GUIDE

MODELS FFC100, FFC150, FFC200, FFC250, FFC300, FFC400, FFC500, FFC700, FFC900, FFC1500, FFC2000, FFC3500

1. Locate desired CFM on bottom horizontal axis of graph.

2. Locate system static pressure on left vertical axis of graph.

3. Determine intersection of CFM and static pressure.

4. Select fan curve to the right of this intersection.

5. Solid state speed control may be used for selections left of curve, up to 50% CFM reduction.

Models FFC100, 150, 200, 250, 300, 400, 500, 700, 900 and 1500 Performance certified is for installation type D: Ducted inlet, Ducted outlet. Performance ratings include the effects of backdraft damper, 18 feet of round inlet duct and, if needed, a rectangular to round duct transition.

Models FFC2000 and 3500 Performance certified is for installation type D: Ducted inlet, Ducted outlet. Performance ratings do not include the effects of appurtenances (accessories).