ECM Fan Products
Why ECM Fans
Save energy without sacrificing performance

There are many benefits when using a fan with an ECM motor, including the wear-free and maintenance-free performance, the long service life, the noise reduction, the intelligent electronic control, the high efficiency and the ultimate result of all of these: unparalleled energy efficiency with an average savings of 30% – in many cases even up to 80% – compared to conventional, standard motor technology.

Compatible
ECM-products are fully compatible with BMS via the most common communication standards BacNet® or by 0-10V signal. This makes it possible to control indoor air quality quickly and reliably.

Flexible
ECM-products give you maximum freedom. They can take the weight off your shoulders. Proven reliable operation and long-term value retention with a minimum of routine upkeep.

Controllable
An ECM-product simplifies demand-controlled ventilation. Integrated electronic control not only makes installation quicker to perform, but the design is also greatly simplified. No connections to a control cabinet are needed.

Compact
Products with EC-motors may surprise you by its low overall unit design which takes up little space. Designing of ventilation systems becomes easier.

Reliable
You can bank on ECM products. Long operating life is assured due to advanced commutation technology and seamless startup. They have longer service life due to lower winding temperatures and less wear.

Economical
ECM-products set a new standard in efficiency which goes considerably farther than predecessor with the same output. Energy savings is substantial, especially at part load conditions.
Residential and Commercial
ECM Fan Product Range

Fantech manufactures an extensive range of ventilation products, beginning with our industry’s first Inline Duct Fan to a wide range of commercial fans. These products are installed in a variety of locations, including apartments, condos, single family homes, offices, hotels, stores, training facilities and sports centers, warehouses and manufacturing plants.

### prioAir

#### Inline Duct Fans with EC motors

With its revolutionary impeller and optimized air flow technology, this fan moves enormous volumes of air with very low energy input.

**Airflow up to 810 cfm**

### FG EC Series

#### Inline Duct Fans with EC motors

The original inline duct fans are known for their leakfree housings, economical use of energy and excellent ease of control.

**Airflow up to 805 cfm**

### FKD EC Series

#### Inline Mixed Flow Fan with EC motors

When you need the high airflow of an axial fan, with the pressure build-up of a centrifugal fan the FKD EC is the perfect solution.

**Airflow up to 5,970 cfm**

### RVF EC Series

#### Exterior Wall Mount Fans

Designed to be installed on an external wall to exhaust air from a range hood, bathroom, spa or mechanical room.

**Airflow up to 930 cfm**

### 5DDU-EC

#### Direct Drive Upblast Ventilators

Direct drive upblast ventilators are designed for roof mounted exhaust on commercial and industrial buildings.

**Airflow up to 4,840 cfm**
**prioAir Series**

Inline Duct Fans with EC Motors

**Application**
The *prioAir* series is designed for installation in ducts. Extremely efficient, *prioAir* fans are perfect for a wide assortment of powerful, quiet air-moving applications.

**Design**
Compact size, low noise, very high efficiency and air tight casing. Aerodynamically optimized impellers and guide vanes with integrated external rotor motors. Includes a mounting bracket. Special composite material is corrosion-proof and light weight.

**Speed control**
The *prioAir* EC fan motor’s speed is controlled via a 0-10Vdc signal. The motor provides a +10V reference that can be used by a remotely-mounted potentiometer. The motor can also be controlled by an externally-provided 0-10Vdc signal that can come from any device or a Building Management System (BMS). The fan’s motor also provides operational speed (tachometer pulse) output that can be used to verify fan operation. These control features allow the *prioAir* EC to be integrated into and play an active role in smart HVAC systems in buildings.

**Motor protection**
Thermal overload protection with automatic reset.

**Sizes**
There are two available duct sizes EC motors - 6” and 8”

**Certification**

<table>
<thead>
<tr>
<th>Model</th>
<th>Rated power</th>
<th>Voltage / phase</th>
<th>Max. apms</th>
<th>RPM</th>
<th>0.0” P.</th>
<th>0.2” P.</th>
<th>0.4” P.</th>
<th>0.6” P.</th>
<th>0.8” P.</th>
<th>1.0” P.</th>
<th>Sound power level (inlet/outlet)</th>
<th>Shipping weight</th>
<th>Shipping class</th>
<th>Item #</th>
<th>List price</th>
</tr>
</thead>
<tbody>
<tr>
<td>6”</td>
<td>86</td>
<td>120 / 1</td>
<td>1.05</td>
<td>4200</td>
<td>444</td>
<td>416</td>
<td>384</td>
<td>349</td>
<td>305</td>
<td>222</td>
<td>72 / 72 @ 0.25” sp</td>
<td>7</td>
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<td>274 -</td>
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<td>3700</td>
<td>808</td>
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<td>1</td>
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<td>349 -</td>
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</table>

- Airflow up to 810 cfm
- Zero leakage
- Extremely energy efficient operation
- Can be installed in any position
- BMS compatible
Dimensions

**prioAir 6 EC**

**prioAir 8 EC**

<table>
<thead>
<tr>
<th>Model</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
</tr>
</thead>
<tbody>
<tr>
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<td>prioAir 8 EC</td>
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</table>

Dimensional information is in inches.

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**Accessories**

- **FC** Mounting Clamps
- **LD** Silencer
- **RSK** Backdraft Damper
- **IR** Iris Damper
- **ADC** Shut-off Damper
- **FML** Metal Hood
- **MTP 10** Speed Control
- **DPC 200** Constant Pressure Control

Thanks to its compact size (Dia. x Length) 6” (8”) x 8-1/3” (9-2/3”), the circular duct fan matches the duct dimensions. A truly tiny inline solution.
Top five reasons to choose prioAir inline duct fan

1. Revolutionary impeller
   A revolutionary impeller is fully optimized for discharge flow characteristics, resulting in the ideal air stream.

2. Extremely efficient motor
   100% speed-controllable, external rotor motor. EC motors exhibit the highest operating efficiency, especially when speed is reduced to match air flow rate demand.
3. Guide vanes
Aerodynamically optimized guide vane geometry organizes the air discharged from the impeller. The result is a highly efficient, powerful and laminar airflow.

4. Electronics
EC-motor models have integrated electronics that accommodate 0-10Vdc manual or automated speed control while providing for the highest operating efficiency.

5. Mounting bracket
Included mounting bracket simplifies installation. The fan can be mounted in any position.
FG EC
Inline Centrifugal Fans with EC Motors

Application
The FG EC Series is designed for installation in ducts. These fans are known for their economical use of energy and ease of control. They can be varied in speed to match an application’s demand, and operate at high efficiency levels. For the same air volume, they consume considerably less energy than an AC fan.

Design
The casing is manufactured from galvanized sheet metal with the seams folded to give the fan an air tight casing. All fans have a minimum 1” long connection collar. The fans have backward-curved blades and external rotor EC-motors.

Speed control
The FG EC fan motor’s speed is controlled via a 0-10Vdc signal. The motor provides a +10V reference that can be used by a remotely-mounted potentiometer. The motor can also be controlled by an externally-provided 0-10Vdc signal that can come from any device or a Building Management System (BMS). The fan’s motor also provides operational speed (tachometer pulse) output that can be used to verify fan operation. These control features allow the FG EC to be integrated into and play an active role in smart HVAC systems in buildings.

Motor protection
Motor protection is integrated in the electronics of the motor.

Certification
Fantech, Inc. certifies that the models shown herein are licensed to bear the AMCA Seal. The ratings are based on the tests and procedures performed in accordance with AMCA Publication 211 and comply with the requirements of the AMCA Certified Ratings Program. Performance certified is for installation type D – Ducted inlet, Ducted outlet. Performance ratings do not include the effects of appurtenances (accessories).

Specification data

<table>
<thead>
<tr>
<th>Model</th>
<th>Rated power</th>
<th>Voltage / phase</th>
<th>Max amps</th>
<th>RPM</th>
<th>CFM per W</th>
<th>0.0” P_s</th>
<th>0.2” P_s</th>
<th>0.4” P_s</th>
<th>0.6” P_s</th>
<th>0.8” P_s</th>
<th>1.0” P_s</th>
<th>1.5” P_s</th>
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<td>5.17</td>
<td>428</td>
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HVI Ratings @ 0.2” Static Pressure Only. Performance certified is for installation type D – Ducted inlet, Ducted outlet. Speed (RPM) shown is nominal. Performance based on actual speed of test. Performance ratings do not include the effect of appurtenances (accessories).

* CFM per Watt is not certified by AMCA.
Dimensions

<table>
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<tr>
<th>Model</th>
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<td>6.67</td>
<td>1.5</td>
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</table>

Dimensional information is in inches.

Potentiometer for Manual Speed Control

The EC fan motor’s speed is controlled via a 0-10Vdc signal. The motor provides a +10V reference that can be used by a remotely-mounted potentiometer, like the MTP 10.

The MTP 10 may be surface or recessed wall mounted for manual speed control of all EC-motor fan models.

Accessories
FKD EC Series
Inline Mixed Flow Fans with EC-motors

Application
These fans are known for their economical use of energy and excellent ease of control. They can be varied in speed to match the airflow demand, and operate at high efficiency levels. An excellent choice for exhaust or supply applications where quieter performance and easy installation are important. Perfect for commercial and institutional structures such as offices, hospitals, beauty salons, veterinary clinics as well as residential applications such as kitchen range hood exhaust.

Design
The casing is manufactured from galvanized sheet metal. The FKD EC series have external rotor EC motors with a mixed flow impeller, which reduces the external dimensions of the fans. These fans have a high air flow capacity in relation to their compact design. Brackets are supplied with the fans to make installation easier.

Speed control
The FKD EC fan motor’s speed is controlled via a 0-10Vdc signal. The motor provides a +10V reference that can be used by a remotely-mounted potentiometer. The motor can also be controlled by an externally-provided 0-10Vdc signal that can come from any device or a Building Management System (BMS). The fan’s motor also provides operational speed (tachometer pulse) output that can be used to verify fan operation. These control features allow the FKD EC to be integrated into and play an active role in smart HVAC systems in buildings.

Motor protection
Motor protection is integrated in the electronics of the motor.

Certification
Fantech, Inc. certifies that the models shown herein are licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and Publication 311. If sound is also certified and comply with the requirements of the AMCA Certified Ratings Program.

Specification data

<table>
<thead>
<tr>
<th>Model</th>
<th>Rated power</th>
<th>Voltage / phase</th>
<th>Max amps</th>
<th>RPM</th>
<th>0.0” P_s</th>
<th>0.25” P_s</th>
<th>0.50” P_s</th>
<th>0.75” P_s</th>
<th>1.0” P_s</th>
<th>1.25” P_s</th>
<th>Sones†</th>
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Performance certified is for installation type D-Ducted inlet, Ducted outlet. Performance is based on actual speed of test. Performance ratings do not include the effects of appurtenances (accessories).

†The sound ratings shown are loudness values in fan sones at 5ft. (1.5m) in hemispherical free field calculated per AMCA Standard 301. Values shown are installation Type D: Ducted inlet hemispherical fan sone levels. Ratings do not include the effect of duct end correction. All sone values shown are calculated at 0.5” (static pressure in inches W.G.).
Dimensions

<table>
<thead>
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<th>Model</th>
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<th>A1</th>
<th>A2</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
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<td>12</td>
<td>14</td>
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<td>7 1/8</td>
<td>12 1/2</td>
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</table>

Dimensional information is in inches.

Constant Pressure Control

The DPC 200 is a low pressure sensor with analog input and PI controlling mode is used with EC fans for constant pressure applications. The sensor reads the static pressure and regulates the fans RPMs to maintain a preset desired static pressure.

- Measuring range 0 - 2.0" w.c. Ps
- Analog output 0 - 10Vdc

Accessories

<table>
<thead>
<tr>
<th>ADC</th>
<th>RSK</th>
<th>FGR</th>
<th>FC</th>
<th>LD</th>
<th>IR</th>
<th>EM-WX</th>
<th>SHL/SGL</th>
<th>FML</th>
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<tr>
<td>Shut-off Damper</td>
<td>Backdraft Damper</td>
<td>Filter Cassette</td>
<td>Mounting Clamps</td>
<td>Silencer</td>
<td>Iris Damper</td>
<td>Electrical Heater</td>
<td>Hood Liner</td>
<td>Intake Hood</td>
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<tr>
<th>MTP 10</th>
<th>DPC 200</th>
<th>5ACC. MS</th>
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<tbody>
<tr>
<td>Speed Control</td>
<td>Constant Pressure Control</td>
<td>Motor Disconnect</td>
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</table>
**Application**

The RVF Series is an exterior, wall-mount exhaust fan. These models are commonly used for remotely located exhaust for bathrooms, kitchens, utility rooms, and numerous applications where installation convenience and quiet nature of a remotely-mounted fan are desirable.

**Design**

The RVF model includes an impeller with backward-curved blades and galvanized sheet metal housing with a white powder-paint coating. When installed on an exterior wall, all ambient noise is kept outside.

These fans are lightweight, compact, and simple to install. The housing is removable for immediate access to the motor and wiring connections.

**Models**

The EC-motor version provides the highest energy efficiency, can be speed controlled via a 0-10Vdc signal, and also includes a pre-wired speed control potentiometer.

**Certification**

Fantech, Inc. certifies that the RVF 10, RVF 10L, RVF 10XL models and all EC models shown herein are licensed to bear the AMCA Seal. The ratings are based on the tests and procedures performed in accordance with AMCA Publication 211 and comply with the requirements of the AMCA Certified Ratings Program. Performance certified is for installation type C- Ducted inlet, Free outlet. Performance ratings do not include the effects of appurtenances (accessories).

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### Specification data. EC models.

| Model     | Duct size | Rated power | Voltage / phase | Max. amps | 0.0" P<sub>s</sub> | 0.2" P<sub>s</sub> | 0.4" P<sub>s</sub> | 0.6" P<sub>s</sub> | 0.8" P<sub>s</sub> | 1.0" P<sub>s</sub> | 1.5" P<sub>s</sub> | Shipping weight | Shipping class | Item # | List price |
|-----------|-----------|-------------|-----------------|-----------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|----------------|----------------|-------|-----------|
| RVF 4XL EC<sup>1</sup> | 4     | 80         | 120 / 1         | 1.51      | 255               | 220               | 209               | 190               | 170               | 155               | 108             | 8               | 1     | 44860     | 443.-    |
| RVF 6XL EC<sup>1</sup> | 6     | 61         | 120 / 1         | 1.21      | 410               | 362               | 328               | 284               | 244               | 208               | 95             | 19.5            | 1     | 44861     | 507.-    |
| RVF 8XL EC<sup>1</sup> | 8     | 85         | 120 / 1         | 1.56      | 574               | 470               | 433               | 392               | 348               | 290               | 160             | 19.9            | 1     | 44862     | 574.-    |
| RVF 10 EC<sup>1</sup> | 10    | 130        | 120 / 1         | 2.22      | 930               | 830               | 768               | 698               | 611               | 505               | 100            | 31.1            | 1     | 44863     | 786.-    |

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1 HVI and cCSAus safety certified. 2 AMCA performance and cULus safety certified.
A new addition to a smart HVAC system

The EC fan motor’s speed is controlled via a 0-10Vdc signal. The motor provides a +10V reference that can be used by a remotely-mounted potentiometer. The motor can also be controlled by an externally-provided 0-10Vdc signal that can come from any device or a Building Management Systems (BMS). The fan’s motor also provides operational speed (tachometer pulse) output that can be used to verify fan operation. These control features allow the RVF EC to be integrated into and play an active role in smart HVAC systems in buildings.
5DDU EC Series
Direct Drive Upblast Roof Ventilators

Application
The 5DDU-EC Series feature energy saving EC motors, which are ideal for applications requiring demand control ventilation. Applications include apartment buildings, multi-purpose rooms with differing rates of ventilation, hi-rise buildings - single fan on riser exhausting multiple spaces or restaurant applications with grease laden air. These upblast ventilators are designed for continuous operation to exhaust foul air, smoke, fumes, odors and grease-laden vapors from range hoods and commercial cooking appliances.

Design
Durable spun aluminum construction with steel support braces. Backward inclined aluminum fan wheel. Motor and wheel are easily detachable without removing ventilator from curb. Factory preassembled with rpm speed control card with automation capability. Module can easily be mounted in optional NEMA 3R enclosure on the outside of the fan or inside the building.

Speed control
The 5DDU EC fan motor’s speed is controlled via a 2-10Vdc signal. The motor provides a +10V reference that can be used by a remotely-mounted potentiometer. The motor can also be controlled by an externally-provided 2-10Vdc signal that can come from any device or a Building Management System (BMS). The fan’s motor also provides operational speed (tachometer pulse) output that can be used to verify fan operation. These control features allow the 5DDU EC to be integrated into and play an active role in smart HVAC systems in buildings.

Certification
All ventilators are UL 705 and UL 762 Standards listed.

Specification data

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Performance Certified is for Installation type A: free inlet, free outlet. Performance rating includes the effects of a bird screen. Speed (RPM) is nominal and performance is based on actual speed of test. Values shown are for installation type A, free inlet hemispherical sone levels.

* The Sound ratings shown are loudness values in fan sones at 5 ft. (1.5m) in a hemispherical free field calculated.
### Dimensions

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Dimensional information is in inches.

### Accessories for UL 762 Commercial Kitchen Exhaust Applications

- **5ACC.. MS** Motor Disconnect
- **5ACC.. VC** Vented Curb
- **5ACC.. HK** Hinge Kit
- **5ACC.. GC** Grease Collector

### Accessories for Non-UL 762 Applications

- **MTP 10** Speed Control
- **DPC 200** Constant Pressure Control
- **5ACC.. FS** Non-ventilated Curb
- **5ACC.. FT** Non-ventilated Curb
- **5ACC.. RD** Roof Mount Damper
- **5ACC.. MS** Motor Disconnect
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