

**⚠ WARNING**

WARNING indicates a hazardous situation that, if not avoided, could result in death or serious injury.

- Read and follow all instructions carefully.
- Disconnect and lock out the main power from the unit being serviced before installing the Evergreen VS user interface and motor. It is also a good practice to confirm that the power is disconnected with a voltmeter.
- Do not operate equipment without guards in place.
- Improper installation, adjustment, alteration, service, maintenance, or use could cause explosion, fire, electrical shock, or other conditions. Consult a qualified installer, service agency, or your distributor or branch for information or assistance. The qualified installer or agency must use the supplied or recommended parts when installing or servicing this product.
- After installing the Evergreen® VS motor, it is the responsibility of the installing technician to verify the HVAC system matches the manufacturer's requirements for proper operation, capacity, efficiency and safety.

**⚠ CAUTION**

CAUTION indicates a hazardous situation that, if not avoided, could result in minor or moderate injury.

- Periodic inspections should be performed. Failure to perform proper maintenance could result in premature product failure.
- Installation and service of this Evergreen VS user interface and motor should be performed only by trained service technicians familiar with these products.
- This Evergreen VS user interface and motor should be installed in accordance with accepted practices and installation instructions, and in compliance with all national and local codes.

**INTRODUCTION**

The Evergreen VS motor is designed to replace Genteq® constant airflow (variable speed) ECM model 3.0 motors. This includes ECM indoor blower motors made by Regal and its predecessor manufacturer and sold under other Regal and predecessor manufacturer brands. The Evergreen VS motor is a constant airflow (variable speed) motor. It will operate in constant airflow mode when it is receiving digital serial interface (DSI) and constant torque mode when it is receiving pulse width modulation (PWM) communication.

**NOTE: Evergreen VS user interface (5K010) is required for replacing Genteq model 2.3 or Eon® motors built with a 16-pin communication plug.**

**APPLICATIONS - GENTEQ 3.0 MOTORS ONLY**

The Evergreen VS motor is designed for use in the following types of HVAC systems:

- Furnace, air handler and package units
- Fossil fuel, electric strip heat, A/C, heat pump and geothermal units
- Single stage, multi-stage, modulating and communicating systems

**Replacing a Genteq model 3.0 motor (4-pin communication plug):**

- Install one (1) Evergreen VS motor
  - o For proper replacement of the Genteq ECM model 3.0 motors, match the horsepower (HP) and voltage (VAC) ratings of the new Evergreen VS motor to the motor being replaced. It is not necessary for the RPM or the amperage (FLA) to match.
 

▪ Stock # 6503V 1/3 HP	120/240 VAC	CCW/CW
▪ Stock # 6505V 1/2 HP	120/240 VAC	CCW/CW
▪ Stock # 6507V 3/4 HP	120/240 VAC	CCW/CW
▪ Stock # 6510V 1 HP	120/240 VAC	CCW/CW
- All Evergreen VS motors are dual rotation (established by communication) and dual voltage (established by the OEM harness).



**Genteq Evergreen VS motor**



**Genteq ECM model 3.0 motor**

**REMOVAL AND INSTALLATION OF THE MOTOR**

**Remove the old motor**

1. Turn off the main line voltage disconnect to the HVAC system.
2. Unplug the 5-pin line voltage plug and the 4-pin communication plug from the ECM Model 3.0 motor.
3. Remove the old motor from the blower section. Leave the belly band mount connected to the blower section.



**NOTE:** If the original ECM motor is rated 3/4 or 1 horsepower (HP) and is installed in a 115 VAC application, there may be a power factor correction choke wired in series with the line voltage 5-pin plug. This device should be left in the system as connected by the HVAC OEM.



**Install the new Evergreen® VS motor**

1. Install the new motor in the existing belly band mount so that the motor plugs are facing down between the 4 and 8 o'clock position as installed in the HVAC system. Also adjust the motor so that the belly band does not block any of the motor's vents.
  - If the old motor was built with welded legs or other type of motor mount other than belly band, one of the belly band mounts listed here should be a good match.



Stock # 5K002  
48 Frame OEM mount



Stock # 5K003 / 5K004  
48 Frame 10" / 11"



Stock # 5K005  
48 Frame 13"



2. Re-connect the 5-pin line voltage plug and the 4-pin communication plug to the Evergreen® VS motor.
3. Operate the HVAC system in all demands and adjust the airflow at the HVAC unit's controls if needed to match measured temperature rise or CFM values to each HVAC system's capacity requirements. The Evergreen VS motor will operate in the direction and at the airflow communicated to it by the HVAC system controls identical to the performance of the replaced 3.0 motor.

**EVERGREEN VS MOTOR SPECIFICATIONS**

Horsepower: 1/3, 1/2, 3/4, 1

Communication Input: PWM OR DSI (Auto switch)

Rotation: CCW or CW by reversing plug (factory set to CCW)

- As viewed from lead end
- Communicated rotation with DSI communication

Bearing: Permanently lubricated ball bearing

Ambient Ratings:

- Powered, not operating: -20° to 65°C (non-icing conditions)
- Operating (1/3, 1/2, and 3/4 HP): -20° to 55°C (non-icing conditions)
- Operating (1 HP): -20° to 45°C (non-icing conditions)

Enclosure: Open Air Over (OAO), NEMA® 48-Frame (5.6" diameter)

Shaft: Single, 1/2" diameter, 5" length, 4.5" single flat

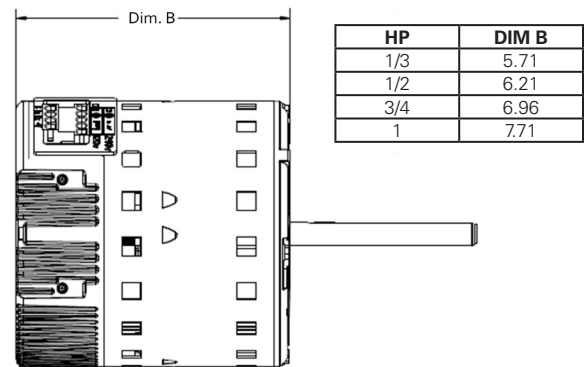
Mounting: Horizontal or vertical shaft-down (VSD), belly band

UL and CSA recognized component

Electronic overload protection

Encapsulated electronics

6kV surge protection



STOCK #	HP	VOLTAGE	FLA	ROTATION	RPM	FRAME
6503V	1/3	120/240	5.0/2.8	CCW/CW	1050	NEMA 48
6505V	1/2	120/240	7.7/4.3	CCW/CW	1050	NEMA 48
6507V	3/4	120/240	10.1/6.1	CCW/CW	1050	NEMA 48
6510V	1	120/240	12.8/7.4	CCW/CW	1050	NEMA 48

**TECHNICAL SUPPORT**

- Phone support: Between the hours 8am-5pm (CST) Monday-Friday at 866-503-8566 Option 3.
- Scan this code with your smart phone or go to [www.EvergreenVS-motors.com](http://www.EvergreenVS-motors.com)



**Terms & Conditions of Sale & Limited Warranty**

Sales of the products described in this Installation Manual are subject to the "Regal Beloit Terms and Conditions of Sale" current at the time of sale. They are accessible on RegalBeloit.com – <https://www.regalbeloit.com> (click "Regal Terms and Conditions of Sale").

The full Limited Warranty, including the scope and period, remedies, exclusions and disclaimers, is described in Section 10 "Limited Warranty" of the Regal Terms and Conditions of Sale and applies except as described below:

Section 10(a)(1) is replaced with the following: Seller warrants that the Products shall be delivered free from defects in material, workmanship and title. This warranty shall expire twenty-four (24) months from first use of the Product or thirty (30) months from date of shipment of the Product, whichever occurs first.

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