



## Common questions and answers

**Q:** What sizes and voltages of the Vari-Green® Motor are available?

**A:**

Motor Information					
HP	RPM	Volts	Phase	FLA	Enclosure
1/6	1725	115	Single	3.1	TENV
1/4	1725	115	Single	3.9	ODP
1/2	1725	115	Single	6.2	ODP
1/2	2500	115	Single	6.5	ODP
3/4	1725	115	Single	10.1	ODP
3/4	2200	115	Single	11.3	ODP
1	1725	115	Single	12.4	ODP
1	1725	115/208-230	Single	12.0/6.0	TEFC
2	1725	208-230	Single	12.0	TEFC

**Q:** How is the speed adjusted on the Vari-Green Motor?

**A:** The Vari-Green motor can be controlled by either a dial on motor (potentiometer) or a 0-10V input signal. Greenheck has a wide variety of control options, all controlling the motor via the 0-10V signal, which are listed below.

- Remote Dial
- 2-Speed
- Constant Pressure – Static
- Constant Pressure – Velocity
- Indoor Air Quality – VOC
- Indoor Air Quality – Temperature/Humidity
- BAS (Building Automated Systems, by others)

**Q:** Is any additional wiring required besides the power wires with the Vari-Green motor?

**A:** The dial on motor (potentiometer) control option does not require any additional wiring. When utilizing the 0-10VDC control signal, a 3-wire low voltage control cable will need to be run from the motor to the location of the control signal. To avoid any interference with the control signal, the control wire should be shielded and/or run in a separate conduit from the power wires.

**Q:** Does the Vari-Green motor qualify for LEED points?

**A:** Individual products do not earn LEED points, systems do. If a system is designed around Vari-Green motors and controls, it will be eligible for LEED points. (For LEED details refer to the Fresh Air Ideas brochure posted on greenheck.com)

**Q:** I have many Vari-Green motors in my building. Do I need to consider anything special for my power service?

**A:** Vari-Green Motors running at maximum speed can sometimes draw a higher peak current than a standard AC motor even though the WATT draw is less. The actual FLA (Full load Amps) rating of the motor must be used for sizing transformers.

**Q:** Will the Vari-Green motor perform reliably in extreme temperatures?

**A:** Yes – we have done extensive testing from -34°F to 104°F (-29°C to 40°C) with no starting or operating issues.

**Q:** Why does my CAPS selection show a required BHP of .1 and it says I will receive a 1/2 HP motor? Why can't I use a 1/6 HP motor?

**A:** We have carefully selected the motor sizes to work best with the entire performance range of the fan. A 1/2 HP motor will consume the same amount of energy as a 1/6 HP for a given load (0.1 BHP in this instance). The maximum speed is programmed in the motor at the factory, so as long as the CAPS selection is within the smaller HP performance range, there will be no need to upsize to the larger motor.

**Q:** *Is the Vari-Green® motor considered “Premium Efficient”?*

**A:** The Vari-Green motor is 20-30% more efficient than other single phase motors in the market today. However, NEMA’s (National Electrical Manufacturers Association) “Premium Efficient” label only applies to three phase AC motors.

Greenheck has defined a high efficiency table for single phase AC motors. The Vari-Green motor meets this table and typically operates at 80-85% efficient, which is at or above the NEMA tables for three phase motors.

**Q:** *Is the Vari-Green motor an ECM?*

**A:** ECM is a GE (General Electric) trademark for Electrically Commutated Motor. EC, or Electronic Commutation, is the switching of the magnetic poles in a motor, through electronic means. The Vari-Green motor is an EC motor. It has internal circuitry that converts the AC input power to DC power. The DC power is controlled by the circuitry, which regulates when and where the magnetic poles in the motor are created. This is what induces the rotation of the motor. This type of technology is most commonly referred to as EC, but is also known as Brush Free DC within the motor industry.

**Q:** *What are the differences between the Vari-Green motor and GE’s ECM?*

**A:** The biggest difference between the two motors is the Vari-Green motor has removed all the unnecessary functions not needed for the fan industry. This reduces the price and makes it more compact. Additionally, the Vari-Green motor does not require any type of programming by the end user. Simply turn the dial on motor to set the speed needed or adjust the 0-10VDC signal being sent to the motor, and the speed will change.

**Q:** *Is fan with the Vari-Green versus a without a Vari-Green comparable in price?*

**A:** The initial price of a fan with a Vari-Green will be slightly more than the standard direct drive, however its also providing more (80% turndown and 85% efficient). When comparing to the standard belt drive the Vari-Green is very similar.

**Q:** *Is the Vari-Green motor thermally protected?*

**A:** Yes, all Vari-Green motors are thermally protected.

**Q:** *Are Vari-Green motors available in three phase power?*

**A:** Vari-Green motors are designed to operate on typical single phase voltages. However if three phase 208-230 volt power is being used, then simply connect two of the three leads to allow the motor to operate.

