Vari-Green Motor

Vari-Green® Motor

ELECTRONICALLY COMMUTATED | CONTROLLABLE | EFFICIENT

Start saving now — with the new, low-cost, easy to control, electronically commutated motor that offers high reliability and low maintenance.

The Greenheck Vari-Green Motor blends technology, controllability and energy-efficiency into a low maintenance package that is changing the way the industry designs, specifies and operates air movement equipment.

GREENHECK
Building Value in Air.

Greenheck
GREEN
Supporting Green Building Initiatives Worldwide

VARI GREEN® Motor

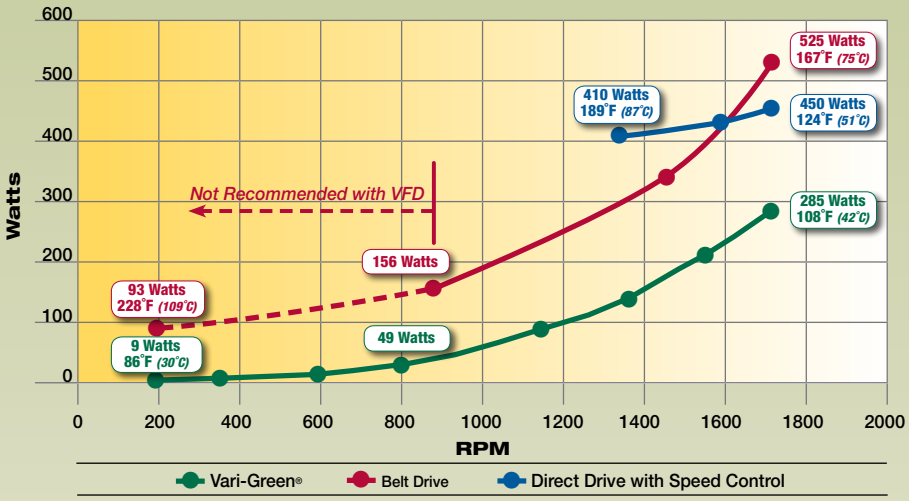
THE FUTURE OF AIR MOVEMENT

Greenheck's new electronically commutated (EC) Vari-Green (VG) Motor combines motor technology, controllability and energy-efficiency into one single low maintenance unit and is the industry's first fully controllable motor.

Advantages

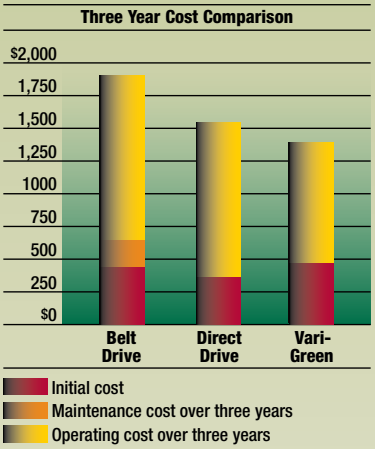
ELECTRONICALLY COMMUTATED | CONTROLLABLE | EFFICIENT

Comparison: Belt, Direct Drive with PSC and Direct Drive with Vari-Green



Length of each curve indicates the practical turndown range.
Data is based on Series C fan with 1/2 hp motor and load of 0.35 Bhp at full speed.

Constant Volume Life Cycle Analysis



Analysis is based on operating costs for a period of three years where the fans operate continuously at 1725 rpm, 24/7, with an energy rate of $0.10 kWh. Maintenance on the belt drive is estimated at $65/yr. Note: Example is based on a relative cost. Use and installation variables may produce different results.

Green

Better than a PSC

- Potentiometer dial pre-mounted on motor for speed control
- 80% usable turndown vs. 30%
- No speed controller to wire
- 20%-70% energy savings
- Full speed range for better adjustment

Greener

More Efficient than Belts

- Potentiometer dial pre-mounted on motor for speed control
- No belt and pulley losses
- Higher efficiency motor
- Comparable up-front cost
- No maintenance required

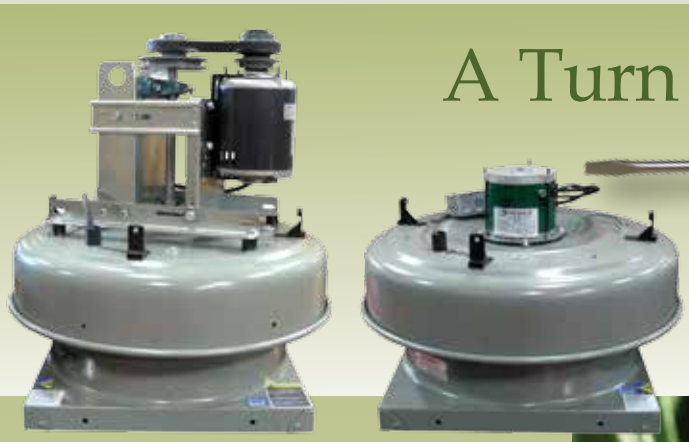
Greenest

Easier than VFD's

- 0-10 volt control wires pre-installed in motor
- No VFD to buy or install
- 30% energy savings
- Lower up-front cost
- Eliminates stray current and carrier frequencies

A Turn for the better!

Vari-Green Motor



Reliability

With industry leading technology comes a new standard in motor reliability.

- No shaft grounding required regardless of the turndown
- Bearing life is greater since the motor runs cooler at lower speeds
- No voltage or current spikes as in VFD controlled motors

Electronic Commutation

Electronic commutation uses electronic circuitry to control the motor's functions:

Solid state circuitry controls the output of power and the speed of rotation.

Internal circuitry converts AC power to DC voltage for increased efficiencies and full controllability of speed.

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

Models Available with Vari-Green Motors

G	Max RPM	Motor HP
80-95	1725	1/6
		1/4
101	1725	1/4
121	1725	1/2
131	1725	1/2
97-99	1725	1/4
103	1725	1/4
103HP	2500	1/2
123	1725	1/2
133	1725	3/4
143	1550	3/4
	1725	1
143HP	2200	3/4
163	1200	1
	1725	2
183	1000	1
	1400	2

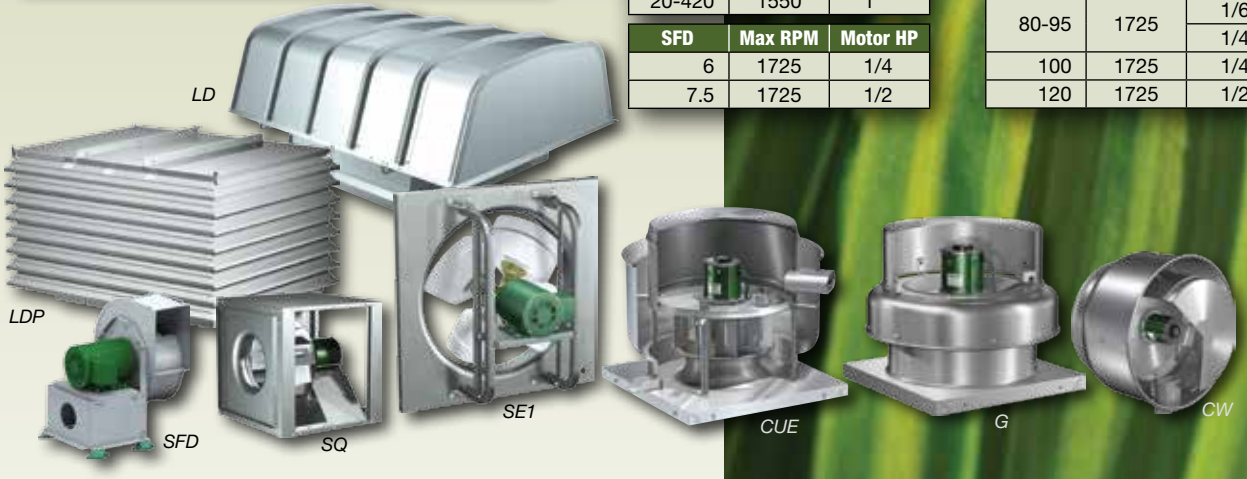
SE1	Max RPM	Motor HP
8-440	1725	1/6
10-440	1725	1/6
12-426	1725	1/4
12-432	1725	1/4
12-436	1725	1/4
14-432	1725	1/4
14-436	1725	1/2
14-440	1725	1/2
16-421	1725	1/2
16-426	1725	1/2
16-428	1725	3/4
16-436	1725	3/4
18-424	1725	3/4
18-429	1725	3/4
20-420	1550	1

SFD	Max RPM	Motor HP
6	1725	1/4
7.5	1725	1/2

CUE/CW	Max RPM	Motor HP
80-95	1725	1/6
		1/4
98	1725	1/4
99	1725	1/4
101	1725	1/4
101HP	2500	1/2
121	1725	1/2
131	1725	3/4
141	1550	3/4
	1725	1
141HP	2200	3/4
161	1140	3/4
	1300	1
	1725	2
161HP	1550	3/4
	1725	1
180	875	3/4
	1000	1
	1400	2

SQ	Max RPM	Motor HP
60-75	1725	1/6
80-95	1725	1/6
		1/4
100	1725	1/4
120	1725	1/2
130	1725	3/4
140	1550	3/4
	1725	1
160	1140	3/4
	1300	1
	1725	2

LD/LDP	Max RPM	Motor HP
80-95	1725	1/6
		1/4
100	1725	1/4
120	1725	1/2



green – It's not just what we make.
It's where we work. How we work. Who we are.

LEED

Greenheck is driving the fan industry in the Green Building and LEED charge. As one of the first manufacturers in the air movement industry to join the United States Green Building Council in 2005, we have been actively researching how our products can be applied. This commitment to the green movement continues with product development that qualifies within the LEED rating system—it's prerequisites and credits. The Vari-Green Motor is equipped to play a large role in the green building movement, specifically Prerequisite Two; Minimum Energy Performance and Credit One; Optimize Energy Performance.

EC Motor Specification

Motor to be an electronic commutation (EC) motor specifically designed for fan applications. AC induction type motors are not acceptable. Examples of unacceptable motors are: Shaded Pole, Permanent Split Capacitor (PSC), Split Phase, Capacitor Start and 3 phase induction type motors. Motors shall be permanently lubricated with heavy-duty ball bearings to match the fan load and prewired to the specific voltage and phase. Internal motor circuitry shall convert AC power supplied to the fan to DC power to operate the motor. Motor shall be speed controllable down to 20% of full speed (80% turndown). Speed shall be controlled by either a potentiometer dial mounted on the motor or by a 0-10 VDC signal. Motor shall be a minimum of 85% efficient at all speeds.

for better air – specify Greenheck fans.

To learn more about the Vari-Green Motor, contact your nearby Greenheck representative or visit our Web site to view the video at greenheck.com/library.

GREENHECK
Building Value in Air.

U.S. GREEN BUILDING COUNCIL MEMBER

Prepared to Support Green Building Efforts

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Vari-Green Motor Brochure | 00.F&V.NB002 R3 8-2012 IW |