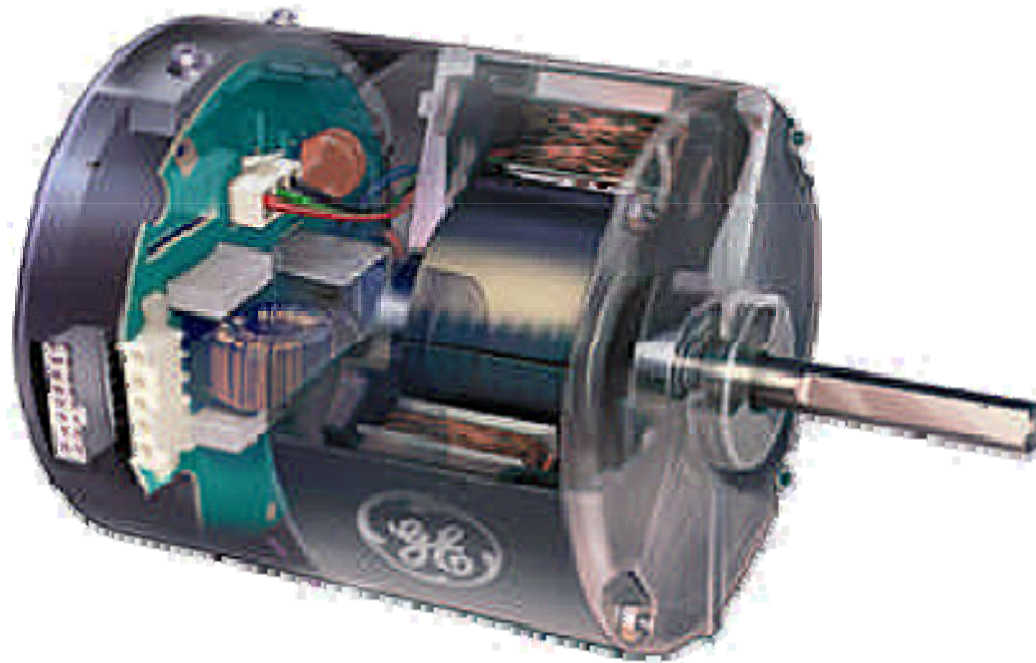




Electronically

Commutated Motor (ECM)

- **Brushless DC Three Phase Motor with a permanent magnet motor**





Electronically Commutated Motor

- **Uses Single Phase Power**
- **The motor control converts AC to DC power to operate the internal electronics**
- **The Microprocessor in the motor control is programmed to convert DC power to a three phase signal to drive the motor**

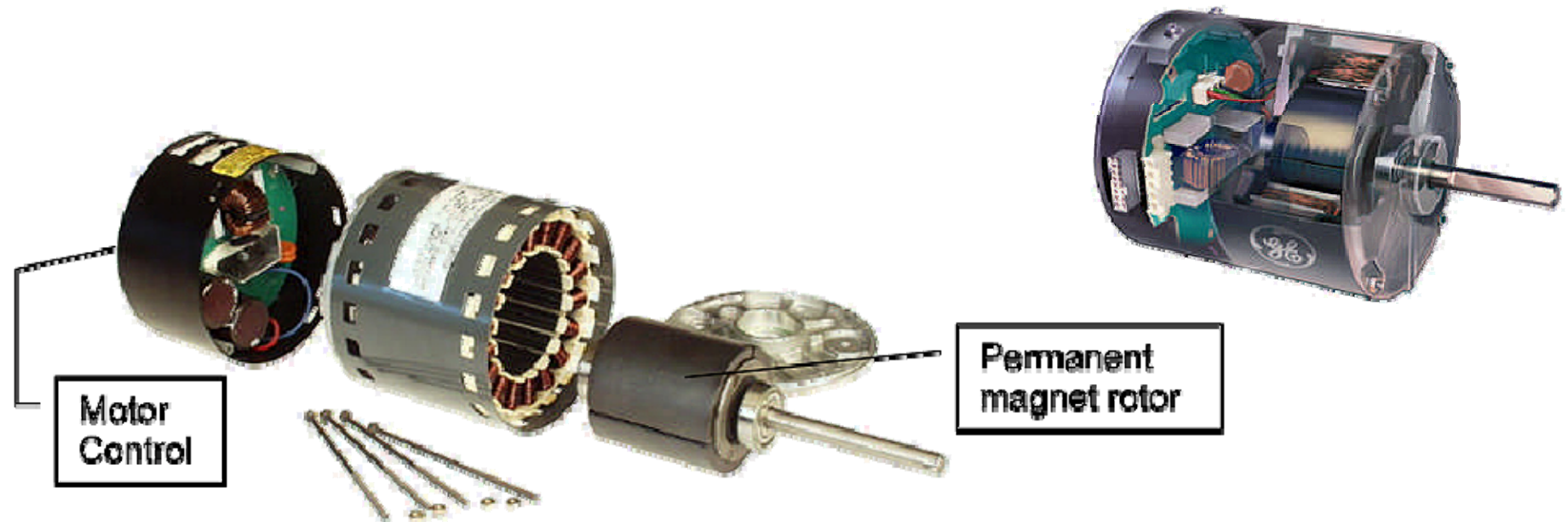




Electronically

Commutated Motor

- The Microprocessor measures and regulates the speed and power output (torque) that is delivered to the motor, without the use of external sensors or controllers
- Microprocessor controls the magnetic fields in the stator of the motor, so it is always synchronized with the rotor

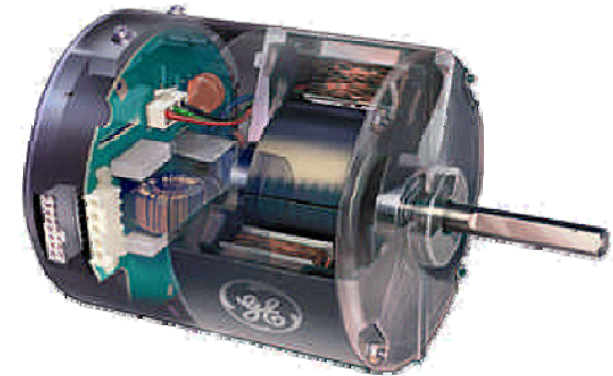




Electronically

Commutated Motor

- **ECM 2.3 Regal-Beloit (now Genteq)**
- **No externally mounted Capacitor**
- **1350 RPM**
- **10" Forward Curved Fan (was 9")**
- **Line Voltage is always connected to the motor**
- **There is a PWM DC signal that varies the motor speed**
- **NU-437, NU-440, NU-480 have the EC Motor as standard, it's optional on NU-425**





Electronically

Commutated Motor

- **Runs more efficiently than the PSC Motor**
- **Generates less heat**
- **Less heat → cooler work environment**
- **Less Heat → less stress on motor bearings**
- **Lower rpm → less vibration**
- **Lower rpm → quieter**



Electronically

Commutated Motor

- **Less motor (electrical) harmonic noise than PSC Motor**
- **Electrical Microprocessor Control and monitor of RPM and torque allow for programming to deliver constant air volume as HEPA Filters load**
- **More rugged design—up to 2X life span of PSC Motor**



Class II – Type A2 BSC

➤ NU-425 – Optional ES Series Upgrade



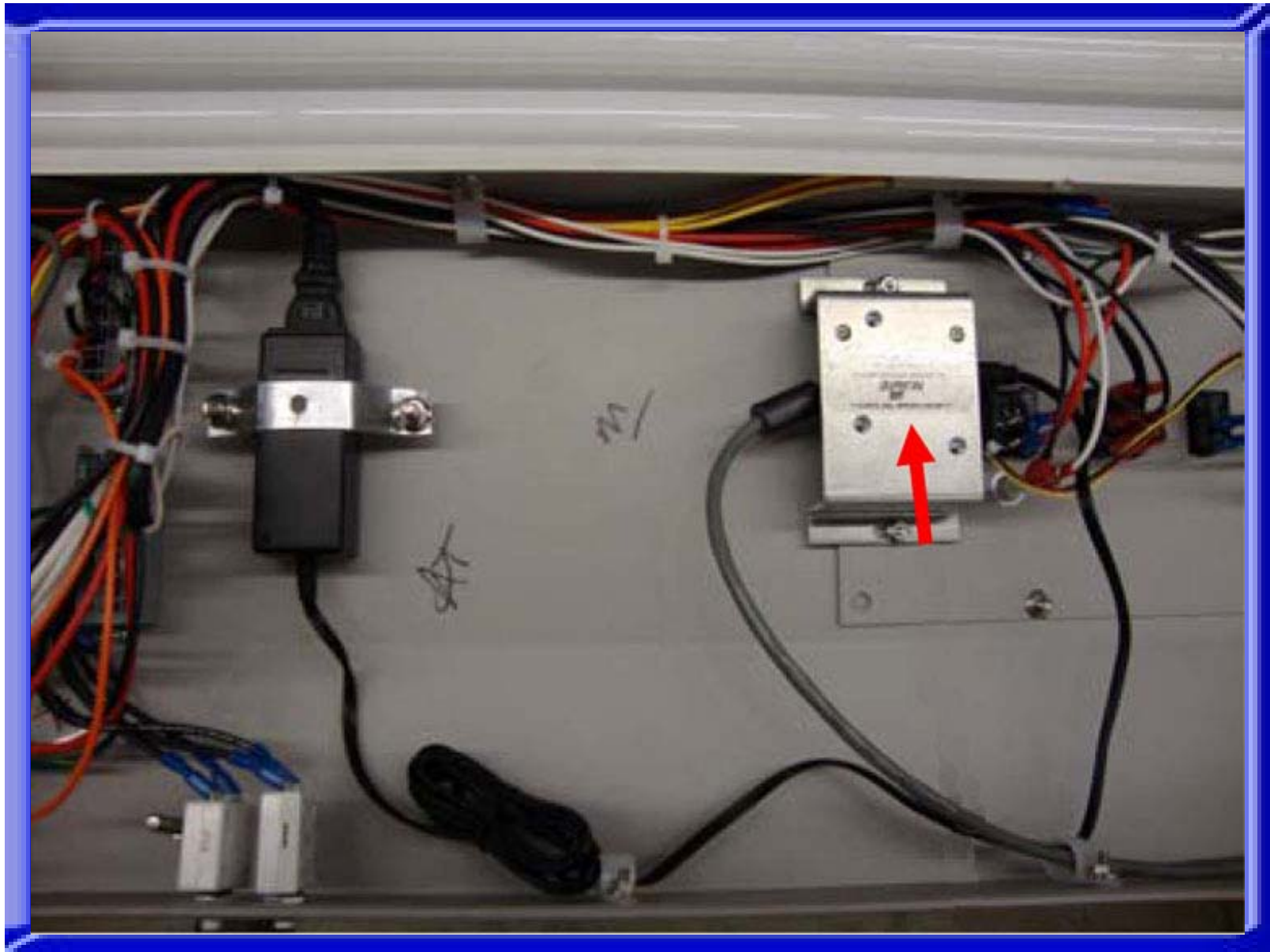


DC Motor Spd Controller

- **DC Motor Optional for NU-425**
- **12 Volt DC Power supply**
- **Automatic Constant Airflow volume**
 - **Thru motor rpm feedback**
- **Manual Airflow volume adjustment (POT)**
- **Pre-programmed by use of jumpers to determine size of cabinet**
- **Speed Cont. locks in setting, after 1 Min. idle time**



DC Motor Speed Control Board

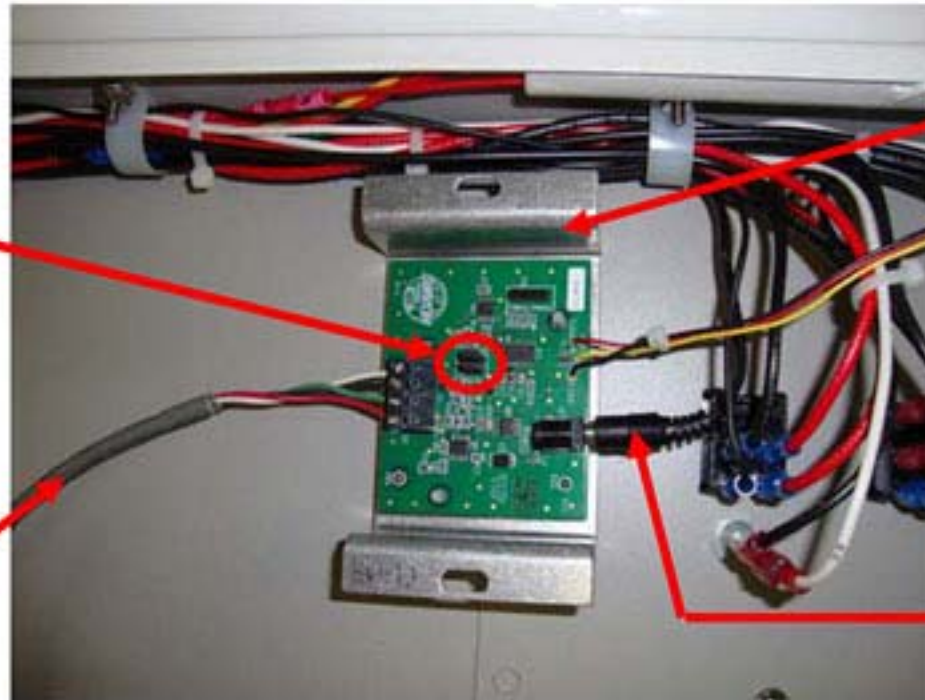




DC Motor Speed Control Assembly

Install jumpers in correct positions depending upon size of cabinet. See BCD-13309 or BCD-13340 for information.

DC ECM Motor Signal Cable



Speed Control Board

From Power Supply



A-999933-01 Triac Jumpers

	J2	J3
3'	0	0
4'	1	0
5'	0	1
6'	1	1

0 = Not Jumped

1 = Jumped