Why X13™ technology?

Three Blower Motors are typically found in Furnaces, Air Handlers and Packaged Units:

PSC Motors

The PSC is probably the most common motor found in direct drive blower applications in the HVAC industry. PSC motors have a minimal speed range and no programmable features, limiting their ability to adjust to static pressure. With a PSC motor, as static pressure in the system increases the airflow decreases. Though the PSC is one of the most flexible motors, it is also the least quiet and least efficient compared to X13, ECM 2.3 and ECM 3.0 motors.

- It is expected that the majority of OEM-installed PSC motors will be replaced by standard ECM in the next 5 to 7 years, as pressure for efficiency and comfort improvements continues.

ECM Variable Speed Motors (Constant Airflow)

ECM 2.3, ECM 3.0, 16X4W and Perfect Speed motors offers climate-specific operating profiles, self-adjusting constant airflow, a fully variable speed range and digital communication. These motors are programmed to maintain a set amount of airflow by adjusting its speed based on static pressure changes in the system monitoring torque, rotor speed and power.

- Currently this technology can only be purchased from the OEM.

ECM Constant Torque Motors were previously only available through OEM until now.

X13™ and Selectech® motors have only five speed commands and are programmed based only on torque. The X13™ technology was created by Regal Beloit® in response to a January 2006 Federal regulation requiring equipment manufacturers to meet a 13-SEER minimum rating. At the same time, US Motors® launched a constant torque EC motor under the Selectech® brand.

The X13™ adjusts its speed (High, Medium High, Medium, Medium Low, Low) based on changes to static pressure by only monitoring changes in torque. This 'standard ECM' motor is much more efficient than PSC motors, but less efficient when compared to ECM variable speed motors.

How to identify an X13™ ECM Constant Torque Motor

	X13	ECM 2.3	ECM 3.0
Constant CFM		✓	✓
Constant Torque	✓	✓	✓
Constant Speed	✓	✓	✓
Control Method	(2-5) programmable Speed Taps	Non-communicating 16 Pin 24V Analog & PWM	2-Way Serial Communication & PWM

- The X13™ has a different body in comparison to ECM 2.3 and ECM 3.0, which is typically referred to as a "one piece" because controls are internal
- Primarily 208-230V
- Increasing 115V install base
- X13™ motors have a unique connector with five programmable speed/torque taps