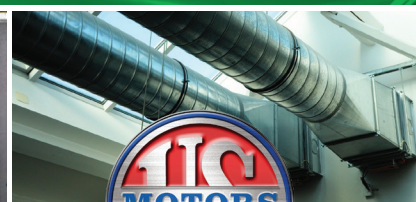
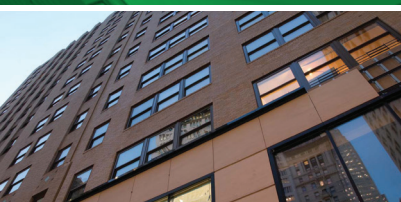


Energy Saving Motor Solutions

Commercial Heating, Ventilation and Air Conditioning



RESCUE ECOTECH® HIGH EFFICIENCY
DIRECT-DRIVE BLOWER MOTOR

PEP® HIGH EFFICIENCY CONDENSER FAN MOTOR

U.S. MOTORS® NEMA PREMIUM® IHP MOTORS

VARITOUGH® INVERTER DUTY
COMMERCIAL CONDENSER FAN MOTOR
WITH AEGIS® SGR PROTECTION

Nidec

NIDEC MOTOR CORPORATION

The demand for energy efficient solutions in commercial HVAC continues to grow and Nidec Motor Corporation is excited to offer an array of high efficiency motor solutions covering most commercial HVAC applications. Whether air handlers, condenser fans or ventilators, U.S. MOTORS® brand of high efficiency motors can help your customers reduce utility costs and energy consumption.

RESCUE EcoTech® High Efficiency Direct-Drive Blower Motor

High Efficiency Electronically Controlled Motor (ECM)

- Up to 82% efficient at peak load reducing watt usage by 30% in A/C or heating mode and 75% in circulation mode versus PSC motors

Retrofits Into Existing Equipment

- Will install into almost any blower with a PSC direct drive blower motor

Contractor Friendly Installation

- Unique design connects to existing system without modification to wiring or controls

Specifications

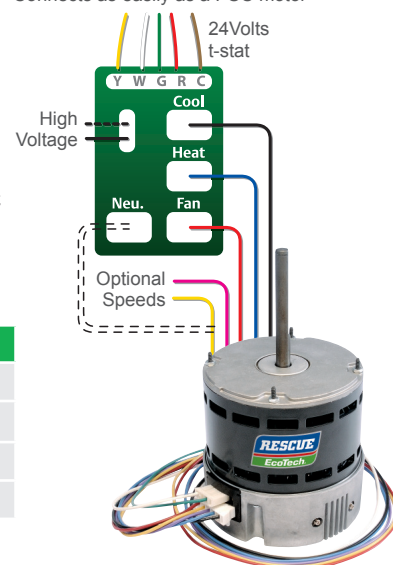
- Multi-HP models cover between 1 to 1/5 HP
- Now each rating is dual voltage 115/208-230 Volts

- Designed for 1075 RPM applications
- 5 speeds, including an optional low 600 RPM, energy saving circulation speed
- Connects directly to standard high voltage control boards or power relays, no signal wires required
- Replaces almost any 48 frame (5.6" dia.) PSC motor in a direct drive blower application

Estimated 5 Year Savings

	PSC vs. RESCUE EcoTech®		
	\$0.12/kWh	\$0.16/kWh	\$0.20/kWh
1 HP	\$2,583	\$3,444	\$4,305
3/4 HP	\$1,658	\$2,211	\$2,764
1/2 HP	\$1,123	\$1,497	\$1,871

Connects as easily as a PSC motor



PEP® High Efficiency Condenser Fan Motor

Up To 15% Improvement in Efficiency

- When compared to a standard PSC condenser fan motor

Cost Effective Way to Increase Energy Savings

- PSC-based technology provides a simple, easy to install way to improve system efficiency

Excellent Companion to the RESCUE EcoTech® Blower Motor

- Improved system efficiency all around when installing both a RESCUE EcoTech® high efficiency blower motor and a PEP® high efficiency condenser fan motor



PEP® Motor

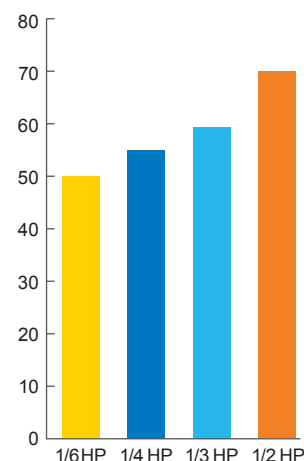
Specifications

- 1/6, 1/4, 1/3, and 1/2 HP ratings available
- 1075 RPM speed also available
- Total enclosed, air over, all angle mounting
- Ball bearings
- 70°C (158°F) high ambient temperature
- 208-230 Volts and 460 Volts ratings

Estimated 5 Year Savings in a Heat Pump

	Standard PSC vs. PEP® – 1/3 HP motor		
	\$0.12/kWh	\$0.16/kWh	\$0.20/kWh
Southern US	\$163	\$217	\$271
Middle US	\$158	\$210	\$263
Northern US	\$155	\$206	\$258

Average Watts Saved PEP® vs. Standard Efficiency PSC



U.S. MOTORS® NEMA Premium^{®†} IHP Motors

Significantly Reduces Energy Usage and Costs

- Fast payback and long-term operating cost savings

Meets Mandatory Efficiency Levels

- Meets efficiency levels set by the Energy Independence and Security Act of 2007 (EISA)

NEMA Premium^{®†} Efficient Motors May Be Considered for Most Applications

- Wide array of premium efficient motors, including general purpose, close-coupled pump and cooling tower duty motors

Specifications

- Ratings from 1 to 200 HP
- Open drip-proof and totally enclosed, fan cooled enclosures
- Compatible with variable frequency drives (based on lead length and switching frequency)
- NEMA Premium^{®†} motors provide a more cost effective alternative to rewinding an old motor



TEFC



ODP

Estimated 5 Year Savings*

	EPA [®] vs. NEMA Premium ^{®†}		
	\$0.12/kWh	\$0.16/kWh	\$0.20/kWh
15 HP	\$870	\$930	\$1,165
25 HP	\$970	\$1,290	\$1,615
30 HP	\$1,165	\$1,550	\$1,940

*Based on 17 hours per day continuous operation at 100% load.
Motors listed are 1800 RPM.

VariTough[®] Inverter Duty Commercial Condenser Fan Motors with AEGIS^{®†} SGR Protection

Inverter Duty condenser fan motors are quickly becoming a critical component of refrigeration and air conditioning systems that utilize a variable frequency drive to modulate capacity and save energy.

The electronics that enable variable frequency drives (VFDs) to control a motor's speed often create large internal voltage spikes and corona discharge between the windings, which can lead to failure in a standard motor.

- VariTough[®] motors are designed to meet the NEMA MG-1, Part 31 design guidelines, and feature Nidec's Inverter Grade[®] Insulation System, which can help meet your specified long life requirements, resulting in less downtime and lower maintenance costs.

High switching frequencies of variable frequency drives can induce damaging voltage levels to the rotor, which seek a path to ground, typically through the bearings. The electrical currents arc between the balls and races of the bearing, causing craters, pitting and fluting that contribute to premature bearing failure.

- Each VariTough[®] motor is equipped with the AEGIS SGR Bearing Protection Ring, providing one of the most effective methods of addressing damaging shaft voltage. The ring is also available as accessory kit number 21.



Grounding Ring

True Inverter Duty Construction

- Inverter Grade[®] Insulation System inhibits damaging corona effect, allowing higher switching frequencies and longer cable lengths



Belly Band or Rigid base models available

70°C (158°F) Maximum Ambient Rated

- Designed for extreme ambient temperatures

Thermostat Overload Detection

- Provides consistent, reliable protection, even in the most demanding inverter duty applications

AEGIS SGR Protection included and mounted

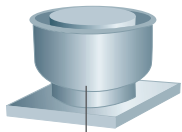
- Shaft grounding ring provides maintenance-free bearing protection from damaging electrical discharges caused by VFD-induced shaft voltage

Specifications

- 3 phase, 56 frame, rigid base and belly band mounting.
- 1, 1½ & 2 HP ratings, 1140, 850 and 575 RPM
- Open drip-proof, shaft-up design
- Class F insulation
- Dual voltage (230 & 460 Volts)
- Reversible rotation

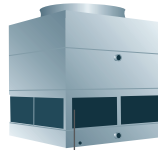
Power Roof Ventilators

- NEMA Premium® Motor
- RESCUE EcoTech® Blower Motor



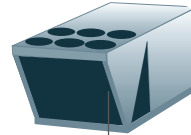
Cooling Towers

- NEMA Premium® Cooling Tower Motors



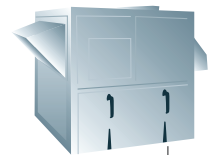
6 Ton and Up Roof Top Units

- PEP® Condenser Fan Motor
- NEMA Premium® Motor
- VariTough® Inverter Duty Motor



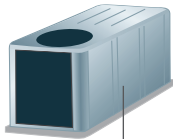
Energy Recovery Ventilators

- RESCUE EcoTech® Blower Motor
- NEMA Premium® Motor



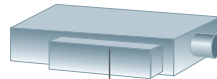
2 to 5 Ton Roof Top Units

- RESCUE EcoTech® Blower Motor
- PEP® Condenser Fan Motor



Variable Air Volume Boxes

- RESCUE EcoTech® Blower Motor



Fan Coils

- RESCUE EcoTech® Blower Motor



RESCUE EcoTech® Blower Motor

PEP® Condenser Fan Motor

U.S. MOTORS® NEMA Premium™ Motor

VariTough® Inverter Duty Condenser Fan Motor

	RESCUE EcoTech® Blower Motor	PEP® Condenser Fan Motor	U.S. MOTORS® NEMA Premium™ Motor	VariTough® Inverter Duty Condenser Fan Motor
2-5 Ton Package Unit	✓	✓		
6 Ton and Up Package Unit		✓	✓	✓
Cooling Tower			✓	
Remote Air Cooled Condenser				✓
Power Roof Ventilator	✓		✓	
Energy Recovery Ventilator	✓		✓	
Variable Air Volume Box	✓			
Fan Coil Unit	✓			

Nidec
NIDEC MOTOR CORPORATION

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