

Key Features

- Designed for variable speed applications
- Far exceeds NEMA Premium® efficiency standards
- All ferrite magnet design, no rare-earth magnets
- Priced to compete with induction motors
- Meets future IE4 standards today
- Maintains high efficiency over broad operating range
- More compact than induction motors, often one full frame size smaller
- Runs cooler, increasing reliability
- Standard NEMA dimensions
- Compatible with readily available VFDs
- UL listed
- Made in USA

NovaTorque, Inc.

145 N. Wolfe Rd.
Sunnyvale, CA 94086

Tel: +1 (408) 739-2400

Fax: +1 (408) 739-2522

Email: info@novatorque.com

www.novatorque.com



Introducing NEW Generation 2.0 PremiumPlus+™ Motors

3HP and 5HP Brushless Permanent Magnet Motors

The innovative features of the NovaTorque® design result in a device superior in both efficiency and performance, when compared to its NEMA Premium® efficiency induction motor competition. Importantly, the NovaTorque motor is also cost-competitive. The unique conical rotor and stator geometry and its concentrated axial flux path enable the use of low-cost ferrite magnets to deliver rare-earth-like motor performance. And, the NovaTorque motor maintains its high efficiency over a very wide speed and/or load range.

7% to 15% More Efficient

In typical variable torque, variable speed applications, such as fans and pumps, NovaTorque motors have proven to be 7% to 15% more efficient than their NEMA Premium® induction motor competition.

While NovaTorque motors enjoy a commanding efficiency advantage at rated speed and load, most applications involving the use of variable frequency drives operate at less than rated speed much of the time. Further, many motors are oversized for their application. Whereas the efficiency of an induction motor falls off dramatically as the speed and/or load declines, NovaTorque motors maintain their high efficiency over a very wide operating range. This further improves their advantage when the motor is operating at lower than rated speed and/or driving less than full rated loads.

Generation 2.0 PremiumPlus+™ Motors

3HP and 5HP Brushless Permanent Magnet Motors

Cost Effective

The cost of powering an electric motor over its useful life is approximately 50 times the original cost to purchase that motor. Hence, relatively small improvements in efficiency can yield large savings in power bills over the life of the unit. NovaTorque has dedicated itself to producing these improvements in efficiency at prices competitive with induction motors. The result is very rapid payback, typically 12 to 18 months, on a small price premium followed by 15 to 20 years of lower power bills.

Compact Size

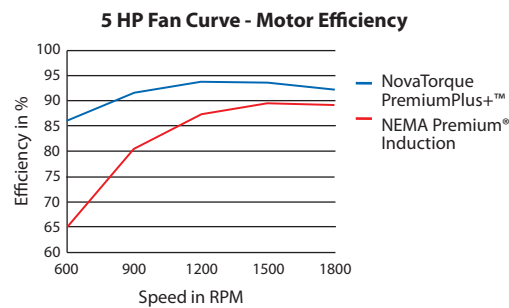
The NovaTorque motor has a cross-sectional area that is 40% less than equivalent induction motors. Less space is required, making the NovaTorque motor an excellent candidate for direct-drive mounting in the airstream in fan applications, improving heat dissipation, while improving thermal performance.

Unique Design

NovaTorque's PremiumPlus+™ motors are brushless permanent magnet motors. But they are far from conventional in design.

- Unique conical rotor and stator geometry concentrate magnetic flux.
- Flux focusing allows the use of readily available low cost ferrite magnets.
- The axial flux path is more efficient. It allows for bobbin windings with no end turns, producing a superior thermal path for heat dissipation. It also uses less material than the conventional radial flux path motor.

Motor Efficiency in a Typical Fan Application



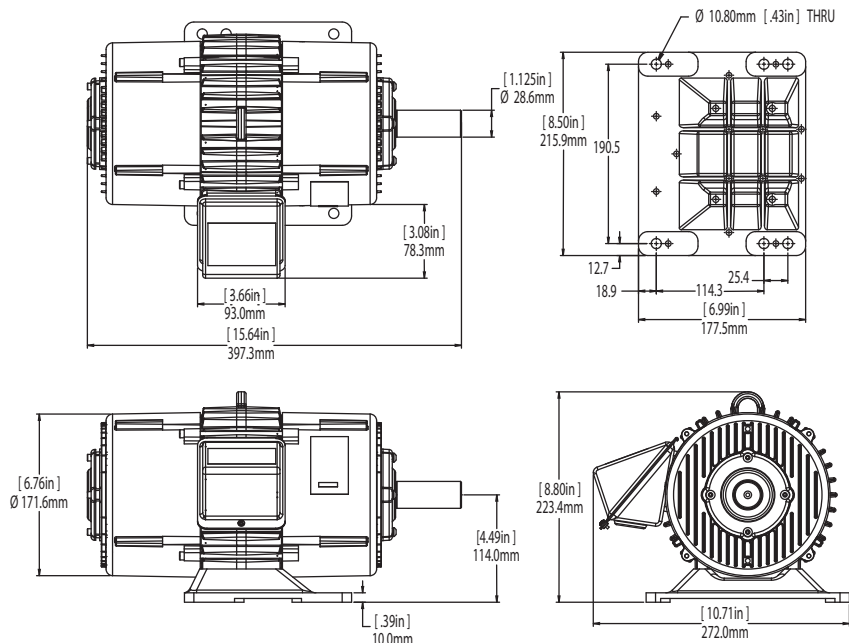
Efficiency comparison of NovaTorque's Generation 2.0 PremiumPlus+™ 5HP motor with the leading NEMA Premium® efficiency 5HP induction motor. Both motors were operated with the same variable frequency drive. More graphs are available on the Company's website, www.novatorque.com.

Motor Specifications:

Motor	3HP	5HP
Model	NTQPM-0318	NTQPM-0518
Nominal Efficiency	93%	92%
Enclosure	TENV	TEAO, TEFC
Mounting	182T Standard 143T Optional	182T Standard, 143T Optional
RPM	Standard 1800 rpm Optional 3600 rpm	Standard 1800 rpm Optional 2600 rpm
Nominal Continuous Torque	lb-in/N-m 105/12 @ 1800 rpm 53/6 @ 3600 rpm	175/20 @ 1800 rpm 87/10 @ 3600 rpm
Insulation class	F	F
Service Factor	1.15	1.15
Weight lbs	72 lbs	TEAO: 72 lbs TEFC: 74 lbs
Electrical	3HP	5HP
Voltage	208-230 or 460 VAC	208-230 or 460 VAC
Full Load Amps	8.2 (200v), 4.1 (400v)	16.2 (200v), 8.2 (400v)
Environmental		
Ambient	-10 to 40 deg C	-10 to 40 deg C
Max Temperature	130 deg C	130 deg C
Relative Humidity	<95% Non-condensing	<95% Non-condensing
Altitude	Up to 3000 ft	Up to 3000 ft
Ingress Protection	IP52 std, IP54 optional	IP52 std, IP54 optional

5HP 182T TEAO Dimensions

For drawings of 3HP 143T TENV, 5HP 182T TEFC, and 5HP 143T TEAO visit NovaTorque's website, www.novatorque.com



For more information, visit the NovaTorque website, www.novatorque.com