

MARATHON® SYMAX® PERMANENT MAGNETIC MOTORS

for FANWALL TECHNOLOGY®

The Marathon SyMAX Permanent Magnetic Motors (PMM) are the latest in a long line of high-performing, efficient AC motors. These motors provide the newest technology available, making them ideal for FANWALL TECHNOLOGY® applications. With the inherent partial load efficiency gains of PMMs compared to their typical induction counterparts, these motors have been optimized to provide reliable control of fans over an air handler's designed operating range while maintaining peak efficiency.



Motor Models and Sizes

The motors come in a variety of horsepower increments and frame sizes.

Model #	HP	RPM	Amps	Volts	Enclosure	Frame
182TPTSB10274	3	1800	3.4	460	TEA0	182
182TPTSB10273	3	3600	3.4	460	TEA0	182
184TPTSB10247	5	1800	5.6	460	TEA0	184
184TPTSB10248	5	3600	5.8	460	TEA0	184
213TPTSB10271	7.5	1800	8.5	460	TEA0	213
213TPTSB10272	7.5	3600	8.4	460	TEA0	213
215TPTSB10249	10	1800	11.1	460	TEA0	215
215TPTSB10250	10	3600	11.7	460	TEA0	215
254TPTSA10275	15	1800	17.5	460	TEA0	254
254TPTSA10276	15	3600	18.5	460	TEA0	254

Features and Benefits

- Significant energy savings potential
- Integrated ESD mitigation
- Lower operating temperature
- Low vibration
- Optimized VFD selections
- More efficient torque curves, especially at lower speeds
- High quality craftsmanship
- Continued conformance to specifications and standards
- Elimination of magnetic field induction
- Ease of implementation
- Increased efficiency

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Energy Savings

It's estimated that the total lifetime cost of a typical electric motor consists of 2-3% purchase cost, 2-3% maintenance and up to 96% electric power. PMMs have proven to be up to 7% to 15% more efficient when compared to induction motors in FANWALL® applications. With such a return on savings, the SyMAX motor can pay for itself in as little as one year. Additionally, the SyMAX efficiency profile is flatter than an equivalent induction motor as the speed and load declines, providing even greater energy savings when operated at partial load.

The Marathon SyMAX PMMs have been engineered to adhere to industry standard NEMA frame and mounting dimensions, which makes implementation into Nortek Air Solution products simple and convenient. With sealed hybrid ceramic bearings, the units are designed for years of trouble free operation.

Durability

SyMAX PMMs are constructed for a long lifetime of continuous operation. The motors are designed for air over applications in Nortek Air Solutions FANWALL TECHNOLOGY® products. They are engineered to dissipate excess heat in order to preserve permanent magnet stability over the life of the motor.

Permanently sealed hybrid ceramic bearings and internal design considerations have been utilized to protect the motor bearings from premature failure due to electrostatic shaft discharge. This minimizes the potential for bearing race damage.

The SyMAX motors have extremely low cogging torque, resulting in smoother operation at all speeds, virtually eliminating torque and speed "ripple".

Ultra-Efficient Industry Solutions

SyMAX PMMs incorporate the highest quality of craftsmanship that meets rigid testing demands and requirements, providing continued conformance to industry specifications and standards.

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