

Benefits of Permanent Magnet Alternating Current (PMAC) Motor Technology

According to the U.S. Department of Energy, electric motor-driven system and components consume almost one third of commercial electrical energy use¹. In many types of commercial applications, upgrading to PMAC technologies can be advantageous. They're considered to be more energy efficient than induction motors, and in cases when they're used to replace existing motors which operate without variable frequency drives, can lead to significant energy savings.

Advantages

- Offers more precise speed control
- Higher efficiency, especially with lower loads
- Provides higher power density than induction motors and low noise
- Runs cooler than induction motors which yields a longer bearing and insulation life
- They're versatile and can be used in many of the same applications that induction motors are used, when paired with a VFD
- High speed capability
- Ideal for areas where space is limited
- For retrofit projects, motor can be sized to fit footprint of existing systems

What to consider when purchasing

- Higher cost (because of rare-earth magnet prices)
- Requires a control or VFD in order to operate (VFD must be PMAC compatible)

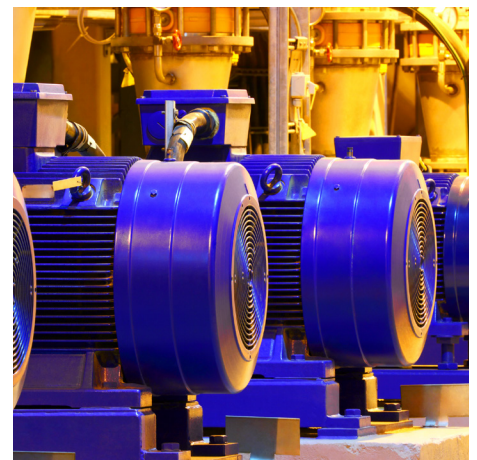
Xcel Energy rebates available

To help lower your up-front costs and increase the return on your investment, we offer rebates on a wide range of energy-efficient motor and drive equipment.

- PMAC rebates: earn \$30 to \$13,500 per motor, depending on horsepower
- VFD rebates: earn \$400 to \$8,000 per VFD, depending on horsepower
- Custom rebates: If your energy-saving motor equipment doesn't qualify for one of our prescriptive rebates, keep in mind that it could be eligible to earn a rebate through our Custom Efficiency program of up to \$400 per kw saved (project preapproval required)

How they work

PMAC motors are synchronous, meaning the rotor spins at the same speed as the motor's internal rotating magnetic field. They have integrated controls or are paired with drives, making them ideal for applications with varied loads.



¹U.S. Department of Energy, <https://energy.gov/sites/prod/files/2014/02/f8/Motor%20Energy%20Savings%20Potential%20Report%202013-12-4.pdf>, Pg 15

Questions

Contact your account manager or an energy efficiency specialist at **855.839.8862** with any questions. To view our full line of Motor and Drive Efficiency rebates, visit xcelenergy.com/MotorEfficiency.