



4 & 6 Pole Synchronous Motors

Hyundai Ideal Electric Co., in business since 1903, specializes in the design and manufacture of large, to-order electric motors, generators, switchgear and controls.

Hyundai Ideal Electric Co. has built synchronous motors for over seventy years. Our expertise, combined with high quality materials and manufacturing processes, results in a reliable, cost-effective motor with high performance and low operating costs.

Benefits

Higher Efficiency

Synchronous motors are typically 1% to 2% more efficient than induction motors. This results in a substantial reduction in operating costs over the life of the motor.

Eliminate Demand Charges

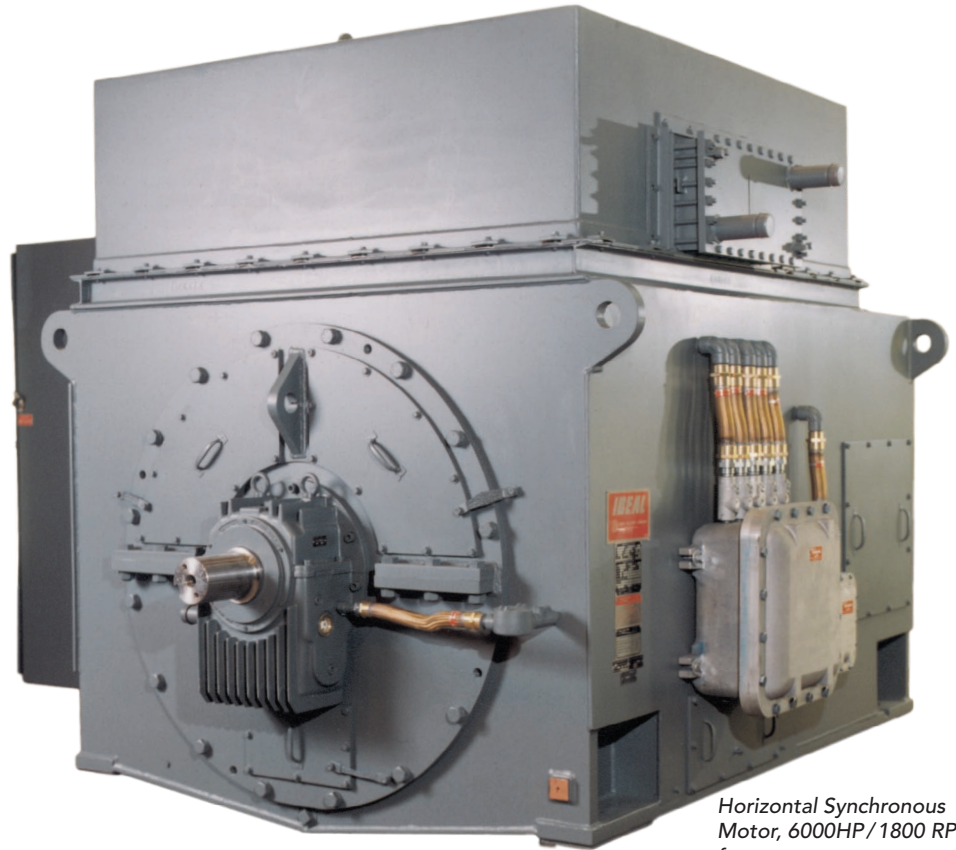
Synchronous motors consume no reactive power, avoiding utility demand charges that are common with induction motors. A synchronous motor running at unity or leading power factor actually supplies reactive power back to the power system, improving the operations of a plant's electrical system and reducing operating costs.

High Torque

Many synchronous motors are designed with torque values greater than those specified in NEMA. Designing and manufacturing a motor to the application allows for trouble free operation without downtime and the high costs associated with loss of production.

Power System

Because synchronous motors typically have lower inrush current than induction motors, synchronous motors minimize the voltage dip on the power supply system when starting. This may eliminate the brown outs and resulting computer equipment shutdowns that can occur while starting large induction motors.



Horizontal Synchronous Motor, 6000HP/1800 RPM for propane storage & pumping station

Increased Output

While running at synchronous speed there is zero slip. This increases the output of the driven equipment.

Mechanical Features

Rotor Construction

Quality materials and manufacturing techniques optimize stability and allow Hyundai Ideal Electric Co. motors to perform dependably under all conditions. Vibration problems are minimized with a very rigid frame construction, and by pre-balancing the rotor.

Rotor Shafts are forged high-quality steel. HIEC 4-pole designs use integral pole laminations that are bolted together under pressure before being shrunk-fit and keyed to the shaft.

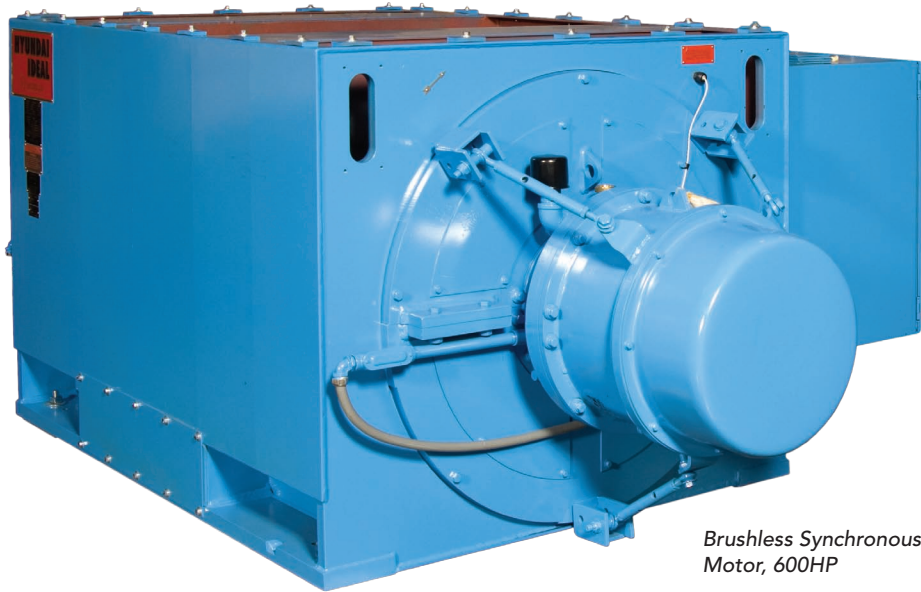
Typically on 6 thru 10 pole machines, the synchronous poles are dovetailed to the rotor hub. 12 pole and above are bolt on pole style connected to a cylindrical hub.

Bearings

Hyundai Ideal Electric Co. offers heavy duty sleeve bearings as standard. Our bearing design can accommodate thrust, if required, and can be flood oil lubricated or self-lubricated depending on the rating or application.

Enclosures

A variety of enclosures is available for every type of installation or classification including those that meet NEMA/IEC standards.



Brushless Synchronous Motor, 600HP

For More Information

For more information on synchronous motors, or any other HIEC product, contact Hyundai Ideal Electric Co. headquarters or your local HIEC representative.

Electrical Features

Sealed Insulation System

HIEC offers full Class F insulation, epoxy VPI system, from our in-house VPI facility.

Brush type or Brushless

Excitation systems can be provided. The brushless exciter is mounted outboard of the bearings for easy maintenance. An adjustable DC power supply for the exciter field, pull-out protection, and incomplete sequence protection make HIEC's system unique. In addition, the slip and sensitivity adjustments are on the synchronizer rather than on the rotating assembly.

Motor Ratings

Hyundai Ideal Electric Co. can manufacture both vertical and horizontal synchronous motors ranging from 500 HP thru 30,000 HP with RPM 1800 and below. Supply voltages ranging from 400v thru 15,000v.

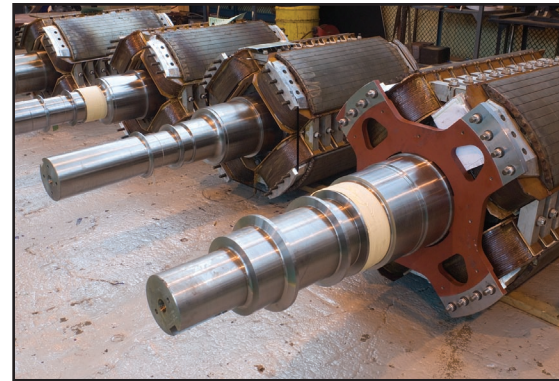
Industry Standards

HIEC manufactures motors to meet all current industry standards, including IEEE, NEMA, API and IEC. CSA labeling and ATEX/CENELEC approved designs are also available.

HIEC routinely designs motors for hazardous operation in Division 2 / Zone 2 environments.

Testing

Hyundai Ideal Electric Co. motors have been rigorously tested in our factory – and, more importantly, in the field – to ensure each motor is mechanically and electrically sound. Hyundai Ideal Electric Co. has responded to the demand for increased testing by adding a state-of-the-art test floor to our manufacturing facility. Our test floor allows for the full-load testing of vertical and horizontal synchronous motors at voltages from 480 volts to 13.8 kV and at 60 Hz and 50 Hz.



Four-Pole Rotor Assemblies

OUR MISSION

Our mission is to produce the highest quality product, satisfy customer requirements, and provide rewarding employment in a profitable growth environment, while supporting the community.



This eco-friendly product is printed using soy-based inks on paper which is acid-free, contains 50% recycled content including 25% post-consumer waste, is bleached without using chlorine and the wood pulp is harvested from sustainable forests.



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