ISO 9001 / ISO 14001

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SAMT
Specialised Air Motors and Transmission

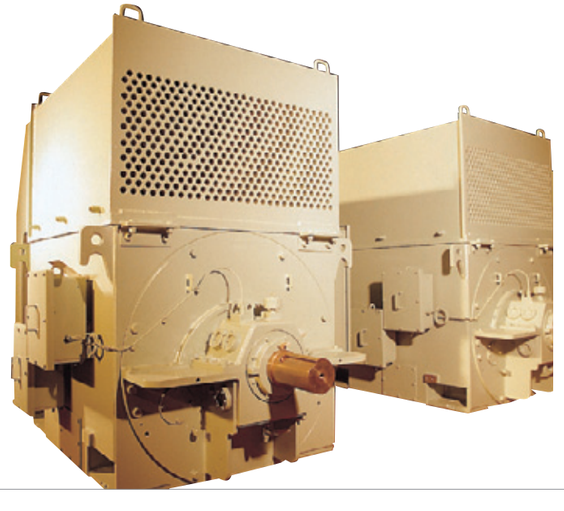
Induction Motor | Preventive Maintenance of High Voltage Rotating Machinery

Energy savings and environmental protection through high efficiency

Producer of all types of motors, ranging from low-voltage small motors to ultra-high voltage large scale motors based on experience and technology built over the years, Hyosung maintains the highest market share in the nation and plays an integral part of Korea's key industries.
With the capacity to produce a 20,000 horsepower motor and automatic production lines, Hyosung produces more than 40,000 motors per month, with quality recognition from both domestic and overseas customers.

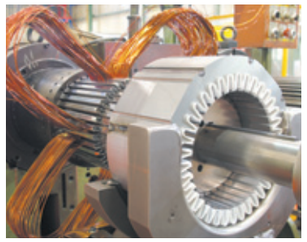
High Voltage Induction Motor

Hyosung's high voltage induction motors, which are exported across the globe including the Americas, Japan, Europe and the Middle East with outstanding quality recognition, not only have the design capability that satisfies the broad specifications and certifications from NEMA, IEC, IEEE but also meet customers' diverse needs. They are of low-vibration and low-noise thanks to premium insulators, thorough process control and quality control. Special varnish treatment and double cage structure type enable the motor to endure various load conditions such as wide inertia of moment.



Low Voltage Induction Motor

Hyosung's low voltage induction motor, which boasts the biggest domestic market share, adopts the local KS and international standards and applies the highly reliable class F and H insulation types that are resistant to both heat and moisture. Use of carefully selected electric materials, precision parts and bearings reduces mechanical loss and minimizes both vibration and noise. The product lineup ranges from vertical-type motor, outdoor-type motor, explosion-proof motor, flame-proof motor,dust explosion-proof motor, inverter motor, motor for ship and pole change motor, all of which are based on TEFC and DP type. Such a wide variety allows customers to choose one that suits all purposes at all places.



High Efficiency Motor

Hyosung is leading the electric energy savings and low carbon energy technology through high efficiency motor business expansion. High efficiency motor refers to one that meets the standard efficiency as specified in the KS and below 600V. Its relatively improved electrical efficiency compared to general motors contributes to reduced emission of carbon dioxide.
Optimum design of core and windings and use of premium materials cut loss by 20~30% while improved protection grade (IP55) makes it more resistant to water and environment. Use of varnish to protect the windings from inverter surge voltage allows for inverter duty (20~60Hz/90Hz) and its two-way use with 50/60Hz makes quick delivery to both domestic and export markets possible. Moreover, the improved product rigidity, processing precision and reduced mechanical/electrical load through structural analysis decreased vibration by around 55% compared to the existing products.

Aluminum Motor

Hyosung's aluminum motor employs optimum design using aluminum frame and bracket, which boast outstanding cooling effect such as thermal conductivity and heat radiance. This has made it to reduce both volume and weight by 15~45% compared to casting motors.

Explosion-proof Motor

Explosion-proof motor is used to prevent either human or facilities disasters triggered by explosions, which chemical plants and others that use electric equipment are vulnerable to as they use explosive gas and steam.
Hyosung takes advantage of its superb technology and state-of-the-art facilities to produce highly safe and reliable explosion-proof motors that satisfy international standards (IEC).

Preventive Maintenance of High Voltage Rotating Machinery

With the know-how and technology acquired over the last four decades of producing rotating machinery, Hyosung supplies various technical services related to preventive maintenance for not only its products but others' as well. Special vehicles loaded with high voltage motor diagnosis system assure quick and accurate diagnosis while diagnosis database pushes up customers' reliability towards the facilities and efficiency to maximum.

- Diagnose insulation fire of high voltage motor
- Diagnose bearing and other machinery parts
- Predict motor's remaining lifespan
- Disassemble and inspect motor
- Replace motor windings and strengthen insulation

HYOSUNG

SAMT
Specialised Air Motors and Transmission

Generator | Special Motor | DC Motor

Energy savings and environmental protection through high efficiency

Generator

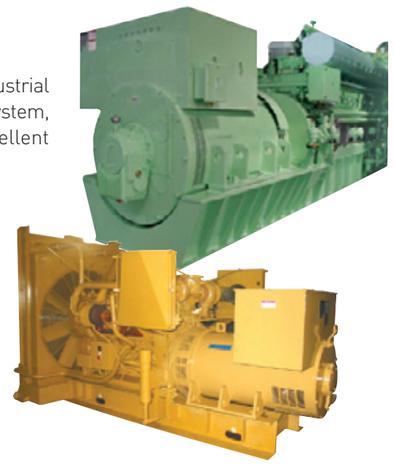
Designed and manufactured with electromagnetic analysis program, structural analysis program and 3D, Auto CAD, Hyosung's generators today enjoy greater product reliability and suit varying field conditions depending on the main power source and emergency power source of industrial facilities. Brushless type together with thyristor control resulted in more rigid maintenance inspection and stable voltage regardless of load change compared to the existing brush structure. In addition, successful development of PMG (Permanent Magnetic Generator) method for the first time in the country contributed to significant quality boost.

Generator for Ground Use

Hyosung supplies both primary power source and secondary power source to various industrial facilities including plants, buildings and condominiums. Thanks to the superb insulation system, its lifespan has been substantially extended and AVR using thyristor guarantees excellent voltage characteristics.

Generator for ships

Hyosung's generator for ship has minimized both noise and vibration to be compatible with ships' operation. It also enjoys outstanding insulation, compact design and efficiency all made possible by continuous technology development and latest production facilities. It is capable of obtaining different levels of classification certification from ABS to GL, LR, DNV and KR depending on customers' demands and has already acquired ISO 9000 and ISO 14001 certification, reflecting its compliance with international standards for both quality and environment. Its safety and reliability have also been proven by multiple classification agencies through Water Mist Test under IP23.



Special Motor

On the basis of accumulated technology and know-how over the last four decades, Hyosung produces not only general induction motors but also BLDC motors, induction synchronous motors, hydrogen explosion-proof motors and traction motors that require highly advanced technology.

BLDC Motor

This product is compact and light through the adoption of a high-performance SmCo permanent magnet, and also adopts coil and insulation specifications, which can endure high temperatures of up to 180℃. Its exterior is made of aluminum alloy to resist vibration and shock. It also supports MIL standards to meet military specifications.

Induction Synchronous Motor

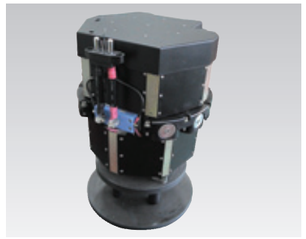
Since the product is a combination of an inductor and permanent magnet, it can work as an inductor upon starting, and then as a synchronous machine during operation. By changing the power source frequency, it ensures high efficiency, high-precision speed control and reduction of moving current.
High performance magnet guarantees stability over an extended period of time and operation with small power source capacity makes this product economical. In addition, precise control through stable torque and broad spectrum of power source frequency makes it possible to operate under speed variability.

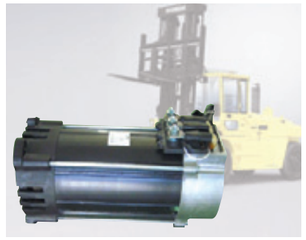
Special Explosion-proof Motor

Hyosung is the first in Korea to have won KIMM certification for its products suitable for use in environments that use explosive gas and steams such as hydrogen and acetylene. It not only attained outstanding safety by structural improvement and use of high-precision processing parts but also satisfied protection grade IP55 by applying improved sealing structure.

Traction Motor

Traction motor, which is used for vehicle drive, is capable of speed control through the exclusive controller that receives battery power source. It should be sufficiently durable so as to absorb the shock during vehicle operation.
Hyosung has so far developed motors used for electric trucks (10~15kW), golf carts (3~7kW), electric vehicles (20~50kW) and railway maintenance tracks (40~60kW). It is currently developing 90kW, 120kW and 240kW traction motors for big buses and dump trucks for mining.





DC Motor

DC motor operating on direct current power source is advanced in speed variability and precision. It is mainly used as a driving motor of a variable speed continuous process such as steel, molding extrusion machines, ropeways and stage equipment.
Hyosung's DC motor has a complete lamination of structure of all-in-one type designed to include a stator, primary pole and inter-pole, which is mechanically very strong. The product is also applied with various cooling methods and protection grades.

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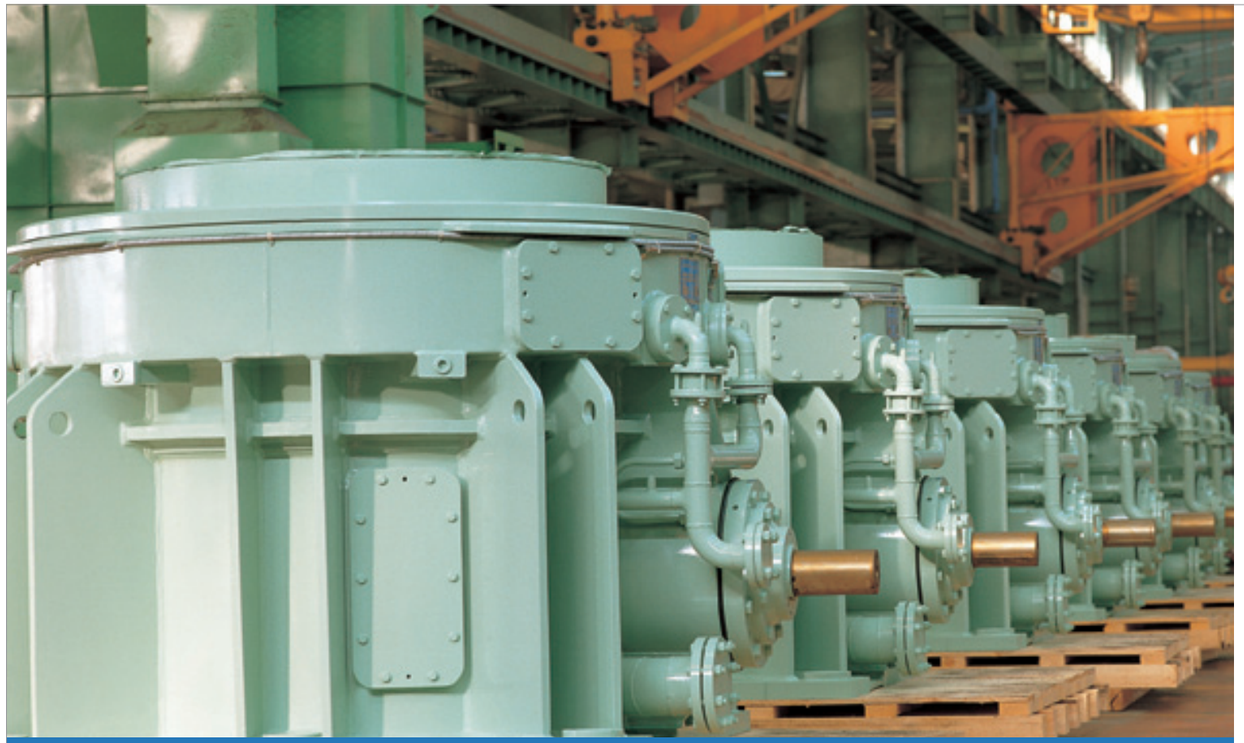
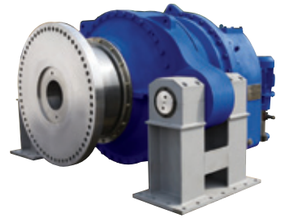


Gear Reducer | Casting

Produces only low-noise, ultra-compact products via up-to-date facilities

Gear Reducer

Based on wide spectrum of know-how and work experience, Hyosung produces optimum gear reducers that cater to the needs of customers. Its optimum design and standardized parts are sufficient to fully and rapidly respond to receivers' varying demands. Hyosung's gear reducers' ultra-compact size is the result of heat treatment via sophisticated precision machinery facilities, which in turn offer high reliability and efficiency to customers.

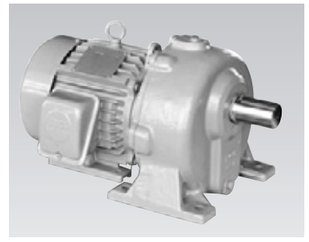


Gearbox

With the latest design and analysis technology, Hyosung designs and produces gearbox, not only for general industrial machines, but also for steel making, power generation, cement, rubber and petrochemical facilities, and has vast experiences in manufacturing the reducers and high speed gear, which satisfies international standards such as AGMA and API. As for gear reducers for ships, standard models are produced for single input, single output and reversing type. Its active procurement also helps achieve efficient delivery on customer order basis. It is fully qualified to secure BS, GL, LRS, DNV, BV, KR, NK and other classification grades and has already obtained ISO 90001, ISO 14001 and OHSAS 18001 international certifications for quality and environment, assuring customers with greater reliability.

Geared Motor

The design technology realizing the ideal distribution of strength has produced compact, lightweight and high-precision gear, which enables smooth and low-noise operation. In addition, the use of high quality grease with a long lifespan does not require repair and maintenance for 20,000 hours, and the complete sealing with grease supports free and convenient installation.



Planetary Gear Reducer

Hyosung's planetary gear reducer distributes rotation power to several planetary gears to make a unit compact and light. It adopted special loading balancing design method from RENK, Hyosung's technology partner, to alleviate the shock load so as to ensure longer lifespan and high product reliability.

■ Production scope

- Gearbox : 2~500 Ratio, 150~73,000kgm Torque
- Planetary gear reducer : 3.55~630 Ratio, 530~38,000kgm Torque
- Warm gear reducer : 10~900 Ratio, 3.95~51,000kgm Torque
- Geared motor : 10~90 Ratio, 2~890kgm Torque

Casting

Hyosung's casting business achieved standardization in such products as motor frames, brackets, terminal boxes and covers. Its diverse product line includes gear reducers, pumps, circuit breakers and various other industrial parts.

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