

Our Nanomag PM alternators are used in various industrial environments. The integration of technology with innovation results in more dynamic power. The generator has a stepless frequency conversion. A nice bonus is the IP-55 protection class, for dusty and humid environments. The capacity in single phase ranges from 5KW to 20KW and in 400 volt 4-pole the power ranges between 6.9KW to 100KW.

Our products are technologically innovative, more compact, lighter, more fuel efficient, more durable, more efficient, more reliable and superior in performance. The possibilities of use in industry are endless: om. Mining, hospitals, military industry, ships, reefer containers, agricultural and construction equipment, and in many other areas.

Mechanical properties of the NANOMAG alternator

1 housing: high quality ALU alloy

2 structure: fully shielded.

3. Permanent magnet material: selection of high quality NdFeB super magnets, with super high intrinsic magnet force, working temperature up to 150 magnet generator, it guarantees C, higher than the actual rotor temperature of the permanent permanent magnetism.

4. Polyesterimide enameled wire (temperature resistance 180 ° C) is used for the winding, stable electrical performance, overload capacity, good thermal shock resistance, high temperature breakdown resistance, good moisture resistance.

5. high-quality silicon steel sheet with high magnetic permeability and low loss can effectively improve the efficiency of permanent magnet generator, reduce eddy current loss, and significantly reduce the temperature rise.

6. The winding with Class-H (temperature resistant 180 ° C) silicone resin insulating coating, which has good thermal conductivity, high electrical insulation performance, good adhesion, and high mechanical strength. And the noise generated by electromagnetic action is effectively reduced, has good moisture resistance, and corrosion resistance.

7. maintenance-free NSK bearings, high performance, long service life, more reliable and durable.

8. A special mosaic structure is used in the design of the rotor to effectively improve the efficiency of the generator and prevent the damage to the permanent magnets.

9. stator design which effectively improves the efficiency of the permanent magnet generator and reduces the loss.

10. Installation method: single bearing standard SAE version, double bearing standard shaft extension, flange connection

Mechanical properties of the product

1. Rated voltage 350-460V, rated frequency 45-60HZ; Rated speed 1350-1800rpm/min; Three-phase 4-pole.

2. The relative increase and decrease of frequency, voltage and speed can be set to zero speed, fixed speed, frequency conversion and other starting methods, which can be used with frequency conversion.

3. The generator is a permanent magnet frequency conversion brushless high efficiency AC synchronous generator.

4. Insulation class: H

5. Degree of protection: IP55

6. Temperature rise: 25 °C

7. Three-phase voltage adjustable range: 0 to 480 Volts

8. ambient temperature $-30^{\circ} \sim +50^{\circ} \text{C}$; the relative humidity is unlimited.

Why NANOMAG PM Alternators?

1. Simple structure and high reliability:

The permanent magnet alternator eliminates the excitation winding. Contactless, simple structure of the whole alternator. The elimination of failure points greatly improves reliability.

2. Small size, light weight and large specific power:

The rotor structure has no coil design and permanent magnets are embedded in the rotor. The internal structure design of the generator is very compact, so that the volume and weight are reduced. The simplification of the structure also reduces the rotational inertia of the rotor, the actual use speed increases, and the specific power (that is, the ratio of power to volume) reaches a higher value. For generators of the same power, the weight of the permanent magnet is reduced by 15-20% compared to the excitation and the volume is reduced by about 8%.

3. The medium and low speed performance is good:

Under the same power level, the output power of the permanent magnet generator is twice that of the excitation generator at steady-state torque.

4. High Efficiency and Fuel Saving:

The rotor structure of the permanent magnet generator eliminates the resistance loss of the excitation coil present in conventional asynchronous alternators, so that the temperature rise of the permanent magnet generator is significantly lower, thereby improving efficiency. The conventional excitation generator has an average efficiency of only 75%-80% in the speed range from 1500rpm to 3000rpm, while the permanent magnet generator reaches 96%. The permanent magnet generator is also an energy saving product. Due to the reduction of the mechanical consumption of the engine itself, the permanent magnet generator can save 15-30% fuel at the same power.

6. Self-starting voltage regulator and near-perfect sine wave:

Because the magnetic field is constant, no external excitation force is required, electricity is generated as soon as the generator is working, and the automatic voltage regulator (AVR) is also missing, which significantly reduces disturbances. The Sine Wave is excellent (mains equivalent) and the Sine wave distortion rate is less than 4%, which is particularly suitable for driving precision instruments and switching power supplies.

7. There is no radio interference, the ability to adapt to the environment, and the ability to withstand overload is extremely strong:

The structure of the permanent magnet generator eliminates the radio interference and spark erosion, which is very suitable for use in harsh environments with high levels of explosion hazard, humidity and dust. Strong anti-overload capability (twice that of conventional alternator)