



About Us

J.D. Engineering Works manufacture **Permanent Magnet Generators, AC Alternators, Electric Motors and PMG for Wind Turbine & Hydro Turbine**. Mr. Gurdavinder Singh, Founder & CEO of Power Gold, and the team has a combined experience of over 40 years in working with Permanent Magnet Alternators. Mr. Singh is enthusiastic to bring the technical advancements to India and intends to accelerate the industrial progress of the country. He possesses deep knowledge and experience of this domain, which has continuously helped us design immaculate products for the clients.

J.D. Engineering is a leading manufacturer and exporter of premium quality Permanent Magnet Alternators and Generators. Located in the suburbs of Hari Nagar in West Delhi, India, it works towards designing and manufacturing innovative and reliable solutions for power generation, transmission and control in the industrial, renewable energy sectors.

Founded in the year 1979, J.D. Engineering has come a long way to establish itself a leading manufacturer of AC Alternators, Generators, Electric Motors and PMG for Wind Turbine and Hydro Turbine which find applications in renewable energy systems like wind technologies, hydro-turbines, generator sets, machines etc. Its focus has always been to innovate products that not only solve the problems of efficiency in power generation and transmission but also keep the environment clean and green.

J.D. Engineering Works, the world-leading specialist in industrial AC Alternators, Generators, PMG Wind and Hydro Turbine, designs and manufactures highly innovative and eco-technological solutions to serve the industrial and large-scale commercial sector markets. Additionally, we offer highly custom tailored products to content the diverse needs of the customers and our professionals deliver a range that meets the exact requirement as specified by the clients. We accentuate on industry compliance and make client satisfaction the focal point of our business operations. Our strong and far reaching presence in the domestic and international market in the past semi century has enabled us to distinguish ourselves internationally while delivering highly effectual and customized products to the clients to meet their requirements.

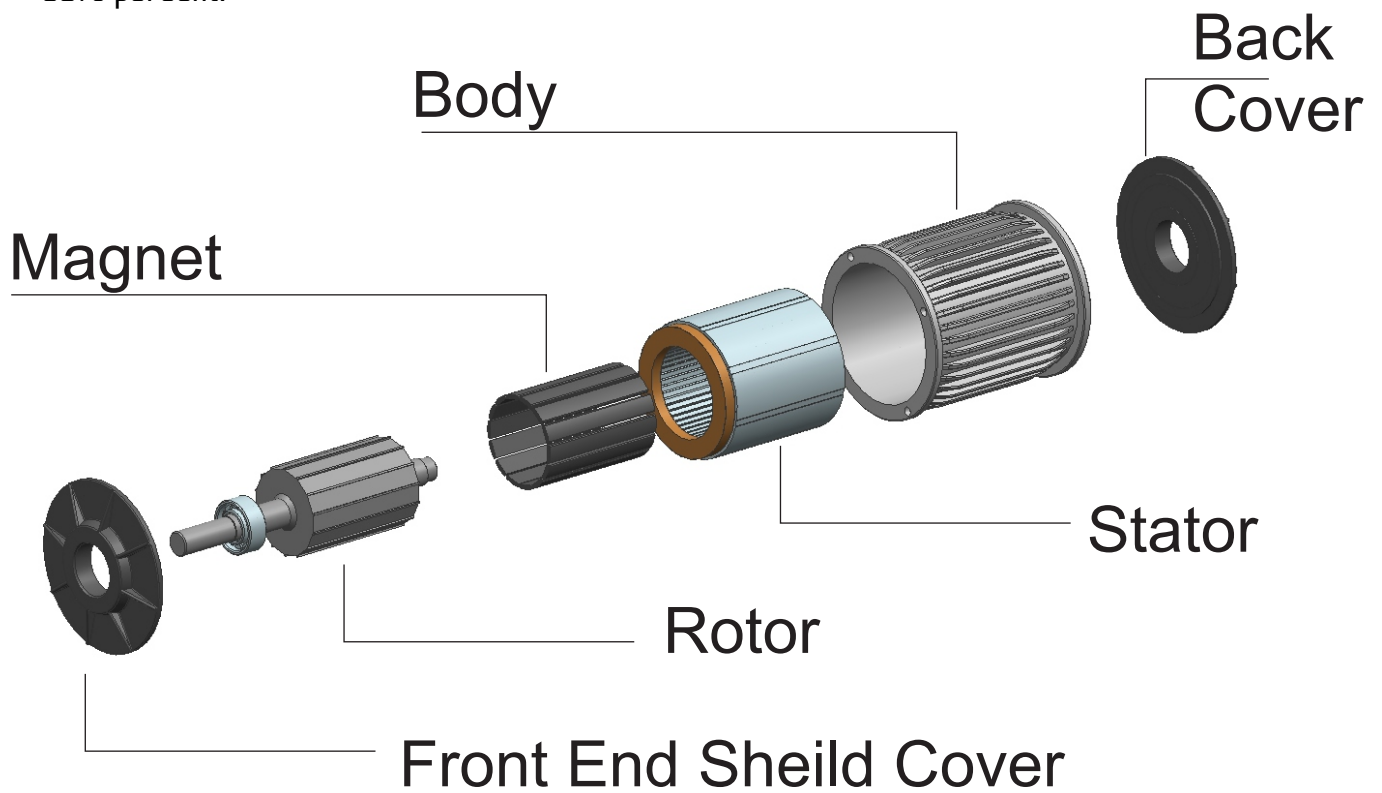


PERMANENT MAGNET GENERATOR

WHAT IS A PERMANENT MAGNET GENERATOR?

1. A Permanent Magnet Generator Is A Device That Converts Mechanical Energy To Electrical Energy.
2. The Rotor Windings Have Been Replaced With Permanent Magnets. These Devices Do Not Require A Separate Dc Supply For The Neither Excitation Circuit Nor Do They Have Slip Rings And Contact Brushes
3. These Machines Are Superior Alternatives To Traditional Induction Motors That Can Be Coupled With Turbines, Diesel Generators And Used For Hybrid Vehicles
4. Another Major advantage Is That These Machines Do Not Require Any Specific Work Environment And Hence Can Be Used In Wind And Water Machines.
5. The Pmg Can Be A Dc Voltage Machine Without Brushes Or Can Be An Ac Synchronous Multiphase Machine With Any Frequency To Be Generated. This Eliminates The Excitation Losses In The Rotor, Which Otherwise Typically Represent 20 To 30 Percent Of The Total Generator Losses
6. Considering A Permanent Magnet Dc Generator, The Inductor Is Found At The Stator With An Array Of Permanent Magnets. But In Case Of An Ac generator, The Inductor Is Located At The Rotor With An Assembly Of Permanent Magnet.

These devices do not consume any environmental resources to product energy and thus are environmental friendly. Besides, no wastage or by products is generated from these devices in the process of energy generation. Environmental experts recommend the use of permanent magnet generators as these can reduce the impact of pollution by up to 50% percent.

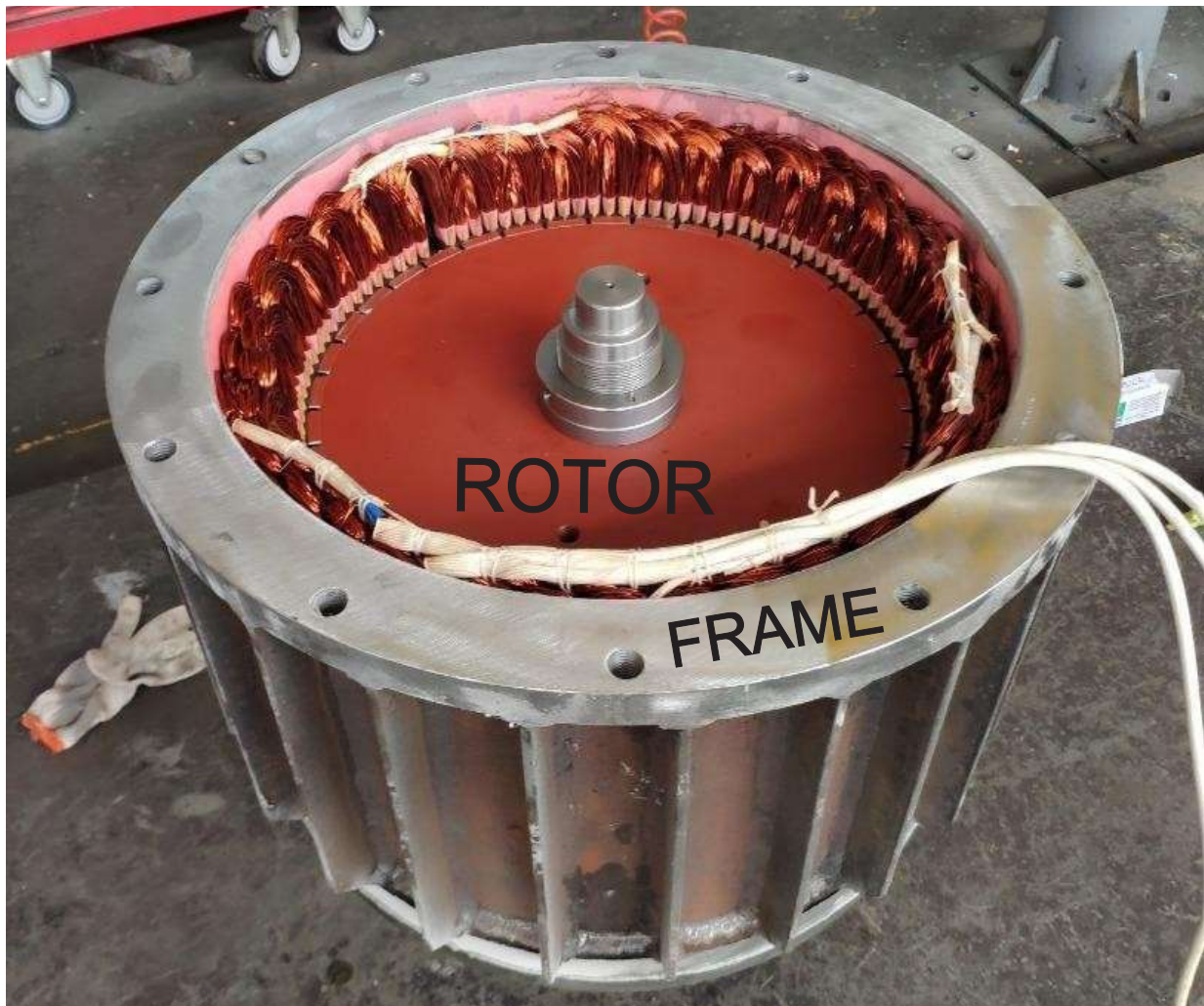


PERMANENT MAGNET GENERATOR

Our permanent magnet alternator is an eco-friendly electro-mechanical device because of exceedingly less mechanical power consumption and maximized power output. Permanent magnet alternators are way more compact as compared to synchronous generators and allow simplified mechanical integration thanks to the fact that they are directly driven by the rotor and therefore, more efficient than the ac asynchronous generator. Permanent magnet alternator has excessively less weight and length. Our permanent magnet alternator is designed with ultra-superior technology to increase efficiency with complete power output system. The permanent magnet alternator is by principle a multiphase AC synchronous machine and more particularly a 3 phase machine delivering a balanced system of AC voltages and currents, in which both stator and rotor magnetic fields are rotating synchronously at the same speed without any slip.

STRUCTURE OF PERMANENT MAGNET GENERATOR

The Permanent Magnet Generator consists of a rotor and a stator, in which rotor is having Neodymium Magnets normally N- 45SH and stator comprises of CRNO core 400 grade having very less watt loss. Once the rotor commences rotating, it generates magnetic flux due to which EMF is induced in the opposite side of the magnetic field, consequently generating voltage at the terminals.



FIXED SPEED OF PERMANENT MAGNET GENERATOR

Permanent magnet alternator's speed is selected depending upon application so that there is no speed variation.

With a PMG system, there are several benefits to the more traditional AC systems:

- Smaller compact system
- Higher efficiency
- Speeds other than synchronous can be fixed to optimize engine power, fuel consumption and voltage output
- High power density reducing weight (both alternator and for the engine)
- Increased reliability of system removing traditional excitation windings.

WHAT ARE THE ADVANTAGES OF PERMANENT MAGNET GENERATOR IN WIND TURBINE APPLICATION

- Direct drive (No speed multiplier, no gear box needed)
- Virtually no maintenance
- Highest power-to-weight ratio in direct drive
- High efficiency
- Simplification of mechanical design
- Easy mechanical interface
- Cost optimization

Permanent magnet alternator's rotor is directly equipped with wind turbine so that it can fixed electrical power. Efficiency of permanent magnet synchronous alternators is way higher than that of asynchronous generators. It offers variety of merits over asynchronous generators and they as follows:

- Direct drive (No speed multiplier, no gearbox needed)
- Virtually no maintenance
- Highest power-to-weight ratio in direct drive
- High efficiency
- Simplification of mechanical design
- Easy mechanical interface
- Cost optimization
- They are environmental friendly and do not rely on the external weather to produce electricity

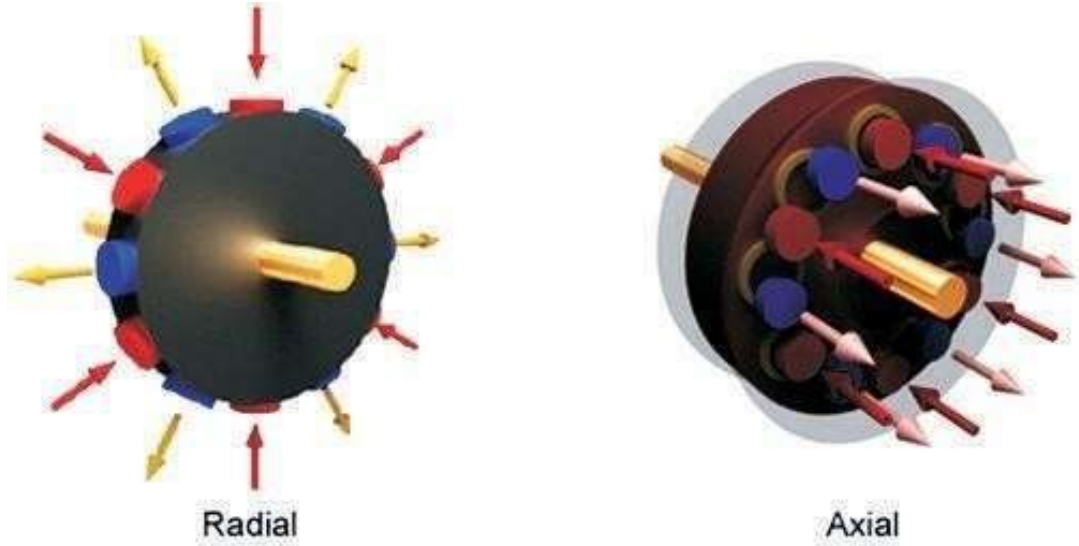
- They are smaller in size and hence require very less space compared to other types of generators.
- These permanent magnet generators run for years and beyond without any wear and tear. Additionally, they are soundless and noise free thus making zero sound pollution

APPLICATIONS OF PERMANENT MAGNET GENERATOR

- Switch low-speed, direct-drive PMGs operate without any gearbox and fast-rotating parts, resulting in increased reliability and superior drive train efficiency. The typical speed range is between 10 rpm and 20 rpm
- Generator can be designed with a segmented stator construction. This provides redundancy and makes it possible to repair the generator in the nacelle without full disassembly. Optionally, our generator design can use the generator bearing as a turbine main bearing to integrate the turbine brake system into the generator construction. Benefits are simplicity, fewer components, and therefore, higher reliability.
- With the rising cost of electricity, an increasing number of populations are looking for an alternate source of energy and permanent magnet generators fit this gap perfectly. These generators can also reduce the strain on the environment as they not use any non-renewable sources of energy for producing electricity

PERMANENT MAGNET GENERATOR

KINDS OF PERMANENT MAGNET GENERATOR



RADIAL FLUX PERMANENT MAGNET GENERATOR

Description	Parameter
RPM	1000
Volts	220/440
Frequency	50
Pole	6
Insulation	H Class
Working Temperature	-40 deg 80deg
Minimum Efficiency	90%

***Starting Torque**

3NM USED FOR THE GENERATION OF ELECTRICITY

PRODUCT RANGE

THREE PHASE SERIES MODEL

MODEL	RPM	POWER (KW)	OUT PUT VOLTAGE	POLE	FREQUEN CY(Hz)
PMG-375G0.5	375	0.5	415	16	50
PMG-375G01	375	01	415	16	50
PMG-375G02	375	02	415	16	50
PMG-375G03	375	03	415	16	50
PMG-375G05	375	05	415	16	50

MODEL	RPM	POWER (KW)	OUT PUT VOLTAGE	POLE	FREQUEN CY(Hz)
PMG-300G05	300	05	415	20	50
PMG-300G7.5	300	7.5	415	20	50
PMG-300G10	300	10	415	20	50
PMG-300G15	300	15	415	20	50
PMG-300G20	300	20	415	20	50
PMG-300G25	300	25	415	20	50
PMG-300G30	300	30	415	20	50

MODEL	RPM	POWER (KW)	OUT PUT VOLTAGE	POLE	FREQUEN CY(Hz)
PMG-450G0.5	450	05	415	20	50
PMG-450G01	450	7.5	415	20	50
PMG-450G02	450	10	415	20	50
PMG-450G03	450	15	415	20	50
PMG-450G05	450	20	415	20	50
PMG-450G7.5	450	25	415	20	50
PMG-450G10	450	30	415	20	50

SINGLE PHASE SERIES MODEL

MODEL	RPM	POWER (KW)	OUT PUT VOLTAGE	POLE	FREQUEN CY(Hz)
PMG-500G0.5	500	0.5	230	12	50
PMG-500G01	500	01	230	12	50
PMG-500G02	500	02	230	12	50
PMG-500G03	500	03	230	12	50
PMG-500G05	500	05	230	12	50
PMG-500G7.5	500	7.5	230	12	50
PMG-500G10	500	10	230	12	50
PMG-500G15	500	15	230	12	50

MODEL	RPM	POWER (KW)	OUT PUT VOLTAGE	POLE	FREQUEN CY(Hz)
PMG-750G0.5	750	0.5	230	08	50
PMG-750G01	750	01	230	08	50
PMG-750G02	750	02	230	08	50
PMG-750G03	750	03	230	08	50
PMG-750G05	750	05	230	08	50
PMG-750G7.5	750	7.5	230	08	50
PMG-750G10	750	10	230	08	50
PMG-750G15	750	15	230	08	50

THREE PHASE AND SINGLE PHASE SERIES MODEL

MODEL	RPM	POWER (KW)	OUT PUT VOLTAGE	POLE	FREQUEN CY(Hz)
PMG-1000G0.5	1000	0.5	415&230	06	50
PMG-1000G01	1000	01	415&230	06	50
PMG-1000G02	1000	02	415&230	06	50
PMG-1000G03	1000	03	415&230	06	50
PMG-1000G05	1000	05	415&230	06	50
PMG-1000G7.5	1000	7.5	415&230	06	50
PMG-1000G10	1000	10	415&230	06	50
PMG-1000G15	1000	15	415&230	06	50



Description	Parameter
RPM	190
Volts	220/440
Frequency	50
Pole	32
Insulation	H Class
Working Temperature	-40 deg 80deg
Minimum Efficiency	90%

***Starting Torque 3NM**

CAN BE USED AS:-



WIND TURBINES



HYDRO TURBINES









JD ENGINEERING WORKS

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