THE POWER PLANT USING PAIR OF MAGNET

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Abstract **–In our day-to-day life the power of electricity is very important, powers that gets from renewable and non-renewable energy resources. This paper shows about the power plant construction using pair of magnets. That means using permanent magnet to form one simplest power plant to get power. The permanent magnet using materials of ceramic ferrite material consist of iron oxide, strontium and a ceramibinder, this material having high flux rate it is used to produce magnetic flux on reflect the other same pole magnet.**

Index Terms**- Energy generation, Magnetic energy, shaft work, iron oxide magnet, permanent magnet.**

I. INTRODUCTION

The following components are used in our project to produce the electicity

- Ac generator high volt(220v)
- Ac motor low volt(110v)
- Permanent magnet
- Couplings

1.1 AC MOTOR LOW VOLT(110V)

Fig 1.1 Ac motor

An **AC motor** is an electric motor driven by an alternating current (AC). The AC motor commonly consists of two basic parts, an outside stationary stator having coils supplied with alternating current to produce a rotating magnetic field, and an inside rotor attached to the output shaft producing a second rotating magnetic field. The rotor magnetic field may be produced by permanent magnets, reluctance saliency, or DC or AC electrical windings

1.2 AC GENERATOR HIGH VOLT(220V)

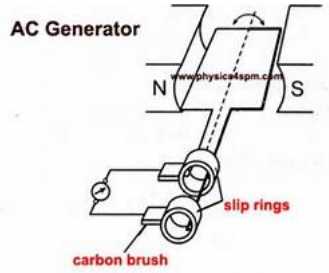


Fig 1.2 Ac generator

In electricity generation, a **generator** [i]s a device that converts mechanical energy to electrical energy for use in an external circuitmechanically a generator consists of a rotating part and a stationary partrotor is the rotating part of an electrical machine statoris the stationary part of an electrical machine, which surrounds the rotorone of these parts generates a magnetic field, the other has a wire winding in which the changing field induces an electric currentfield winding or field magnetis the magnetic field producing component of an electrical machine. the magnetic field of the dynamo or alternator can be provided by either wire windings called field coils or permanent magnets. a generator using permanent magnets is sometimes called a magneto.armature is the power-producing component of an electrical machine. in a generator, alternator, or dynamo the armature windings generate the electric current, which provides power to an external circuit.

1.3 PERMANENT MAGNET

An electromagnet is made from a coil of wire that acts as a magnet when an electric current passes through it but stops being a magnet when the current stops. Often, the coil is wrapped around a core of "soft" ferromagnetic material such as steel, which greatly enhances the magnetic field produced by the coilthe following types can be used as a magnet for a particular application

1.4 MAGNETIC METALLIC ELEMENTS

Many materials have unpaired electron spins, and the majority of these materials are paramagnetic. When the spins interact with each other in such a way that the spins align spontaneously, the materials are called ferromagnetic (what is often loosely termed as magnetic). Because of the way their regular crystalline atomic structure causes their spins to interact, some metals are ferromagnetic when found in their natural states, as ores. These include iron ore (magnetite or lodestone), cobalt and nickel, as well as the rare earth metals gadolinium and dysprosium (when at a very low temperature). Such naturally occurring ferromagnets were used in the first experiments with magnetism. Technology has since expanded the availability of magnetic materials to include various man-made products, all based, however, on naturally magnetic elementsThe overall strength of a magnet is measured by its magnetic moment or, alternatively, the total magnetic flux it produces. The local strength of magnetism in a material is measured by its magnetization.

1.5 COMPOSITES

Ceramic, or ferrite, magnets are made of a sintered composite of powdered iron oxide and barium/strontium carbonate ceramic. Given the low cost of the materials and manufacturing methods, inexpensive magnets (or non-magnetized ferromagnetic cores, for use in electronic components such as radio antennas, for example) of various shapes can be easily mass-produced. The resulting magnets are non-corroding but brittle and must be treated like other ceramics.Alnico magnets are made by casting or sintering a combination of aluminium, nickel and cobalt with iron and small amounts of other elements added to enhance the properties of the magnet. Sintering offers superior mechanical characteristics, whereas casting delivers higher magnetic fields and allows for the design of intricate shapes. Alnico magnets resist corrosion and have physical properties more forgiving than ferrite, but not quite as desirable as a metal.

1.6 INJECTION-MOLDED MAGNETS

Fig 1.3 Injection Moulded Magnets

Injection-molded magnets are a composite of various types of resin and magnetic powders, allowing parts of complex shapes to be manufactured by injection molding. The physical and magnetic properties of the product depend on the raw materials, but are generally lower in magnetic strength and resemble plastics in their physical properties.

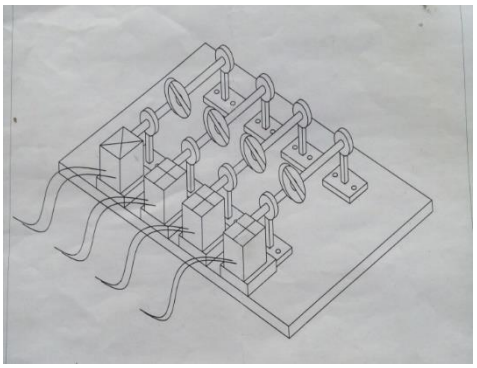
1.7 FLEXIBLE MAGNETS

Flexible magnets are composed of a high-coercivity ferromagnetic compound (usually ferric oxide) mixed with a plastic binder. This is extruded as a sheet and passed over a line of powerful cylindrical permanent magnets. These magnets are arranged in a stack with alternating magnetic poles facing up (N, S, N, S...) on a rotating shaft. This impresses the plastic sheet with the magnetic poles in an alternating line format. No electromagnetism is used to generate the magnets. The pole-to-pole distance is on the order of 5 mm, but varies with manufacturer. These magnets are lower in magnetic strength but can be very flexible, depending on the binder used.

1.8 COUPLINGS

Coupling is also the transfer of electrical energy from one circuit segment to another. For example, energy is transferred from a power source to an electrical load by means of conductive coupling, which may be either resistive or hard-wire. An AC potential may be transferred from one circuit segment to another having a DC potential by use of a capacitor. Electrical energy may be transferred from one circuit segment to another segment with different impedance by use of a transformer. This is known as impedance matching.

II. EXPERIMENTAL SETUP



In this setup the motor is connected with permanent magnet set.The Input power provides magnet to rotate, due the same pole of magnet the magnet will reflect each other and

rotates.The gap between the magnet placed on 1 cm distance.Rotating magnet is connected to shaft and generator to get the power.The produced power is used in home and industrial application

2.1 ADVANTAGES

- Simplest method to form the plant.
- Cost compare other power plant is less
- No need of other environmental affecting materials like coal, any other fuels.
- It should be protected.
- Power production is high

III. CONCLUSION

We can see about the future ideas of the power Production method and there is no any environmental pollution takes place .at the same time it is used as a primary power source in different home appliances. By increasing the windings and magnet powers we can get a maximum number of power production

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