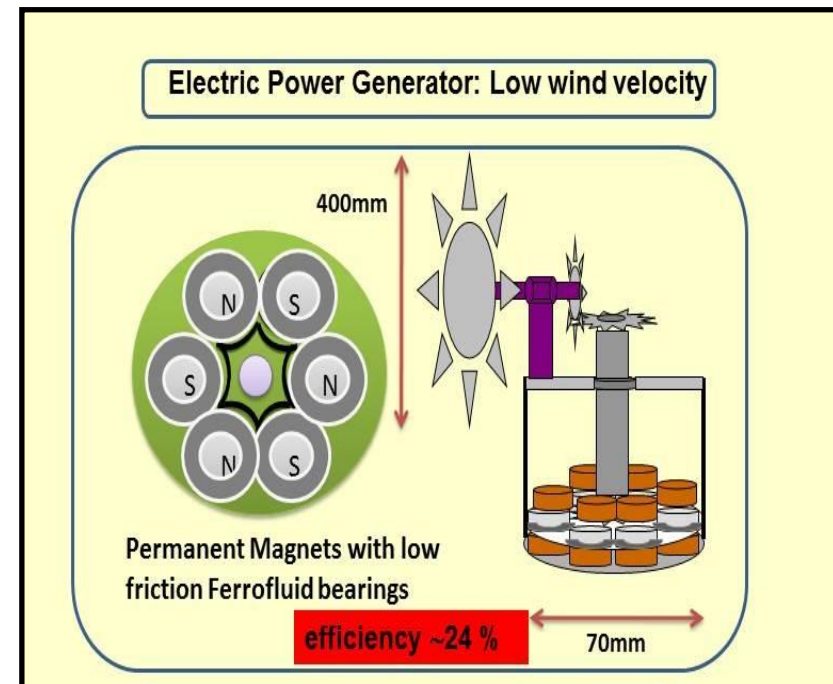




Name of Technology: Ferrofluid based portable power generator

Summary: Ferrofluid based power generator is an energy conversion device which converts the wind energy into electrical energy. The concept of generation of electricity is based on the Faraday's principle of Electromagnetic Induction. The incoming air rotates the fan blade, which further rotates the magnets which are connected via shaft. Beneath the magnets, coils are placed. Magnets are dipped in ferrofluid thereby forming Ferrofluid bearing which assists the relative motion between magnets and coil. Coils and ferrofluid bearing are separated by a thin non porous sheet.

Technical Specifications	
Parameters	Quantitative details
Cylindrical Magnet	NdFeB (N50)
Size of magnet	25 mm X 12.5 mm
Magnetization	5000 G
Number of Magnets	4-6
Number of turns	1000 - 2000
Number of Coils	4 - 6
Gauge of wire	40
Fluid Magnetization	400G
Magnetic Volume %	10-15 %
Coefficient of friction using ferrofluid bearing	0.0008
Number of blades	3-6
Efficiency	23%
Power	15 - 1250mW



Application: use for generation of electrical energy in rural area, sea sides,

**Advantages:**

1. Green technology, 2. Low wind power required, 3. High efficiency, 4. Low maintenance, 5. Pure sine wave obtained 6. Portable and easy to install.

Readiness level of the Technology:

Idea	Concept Definition	Proof of Concept	Prototype	Lab Validation	Technology Development	Technology Demonstration	Technology Integrated	Market Launch

Related Patents:

Patents No: DEL No1364, 2008; Country: India; Publication Date: 18/12/2009; Grant Date: awaited, Year of Introduction: Not available

Broad Area/category: Energy

User Industries: wind energy, electrical power generator, green energy.

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