

Variable Capacitor Generator

Drive Motor

The Motor type used would be best described as a Motor Generator / Monopole Magnetic Pulse Motor / Reluctance Motor (Adams motor) / Two Phase Magnetic Attraction Motor.

Through trial and error testing I have found this method of motor type to be both efficient and useful for various uses. It works on the principal of a magnet wanting to align itself with a corresponding magnet separated by the distance of the drive coil on the same rotor. I imagine it to be like 2 flashlights looking through a tunnel and seeing each other at either end. Its an important feature to have the magnets align in a co- linear design along the length of the rotor to achieve this result. The other important feature to be built into the design is to angle the magnets in such a way as to gradually increase the magnetic saturation of the DCC (Drive Coil Core) over as much of the rotor disk as practicable. This can be achieved by using multiple magnets grouped and positioned on an angel where the leading magnet starts at a further distance and the last magnet in the series is at the closest point. This will allow the magnetic flux to increase over a longer distance forcing the rotor to turn until it reaches it's maximum saturation point. At this point the drive coil is energized to first block, then reverse the magnetic field. The DCC on the next phase is now being saturated by the magnetic rotor and the rotor is turning to reach its closest point, its DCC will be energized repeating the process. This system can be run on multiple phases however many that can be applied to the length of the shaft. An important feature of this system will allow for the considerable off set of the energized duty cycle. Being the magnets cover 80% or more of each revolution through magnetic alignment of DCC. Which leaves 20% of the revolution resulting in less watts consumed energizing the DCC.

There are quite a few other special features i.e., Time function of the magnet, Velocity of a magnetic field and distortions of the moving magnetic flux. However they are not a required understanding for the above scope of this Motor Description. I will however mention that this makes for an excellent generator in it's own right and could easily be converted as a water driven or wind driven generator with exceptional output that exceeds most other magnet generators due to their heavy laminated iron core. Another project?

Toppler / Holtz machine

Standard machine type and design. Two great sources of information of electro statics Dr. Antônio Carlos M. de Queiroz , <https://acmq-326823.web.app/electrostatic.html> <https://www.youtube.com/user/acmdq2007/videos> and professor Walter Lewin <https://youtube.com/playlist?list=PLyQSN7X0ro2314mKyUiOILaOC2hk6Pc3j>

Variable Capacitor The variable capacitor is best described referring to the equation (Capacitance) $C = \epsilon A / D$. The variable capacitor by design changes the Value of A (area) which in turn changes the value of C. The Value of D and E don't change. The changing Value of C allows for current to flow freely on or off the plates and try balance with the changing position of the Trapped charges on the rotor. Walter Lewin does a great lecture on this topic. <https://youtu.be/qyP1xZCB62E> My thoughts only.

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