

# Brown Nucell

Paul Brown **Nucell**. A radioisotope electric power system developed by inventor Paul Brown is a scientific breakthrough in nuclear power. The [battery](#) utilizes the energy given off by decaying radioactive material, converting it directly into a continuous AC electrical current. Unlike conventional nuclear generating devices, the power cell does not rely on a nuclear reaction or chemical process and does not produce radioactive waste products. **Brown's** first prototype power cell produced 100,000 times as much energy per gram of [strontium-90](#) (the energy source) than the most powerful thermal nuclear battery yet in existence. The Nucell battery yielded 7500 watts per gram of strontium-90. Compare this to an advanced device recently developed by the US Dept. of Energy Byproducts Utilization Program. Their state-of-the-art thermal nuclear battery produced 0.063 watts per gram of [strontium-90](#). The key to the **Nucell** battery is **Brown's** discovery of a method to harness the magnetic energy given off by the alpha and beta particles inherent in nuclear material. Alpha and beta particles are produced by the radioactive decay of certain naturally occurring and man-made nuclear material (radionuclides). The electric charges of the alpha and beta particles have been captured and converted to electricity for existing nuclear batteries, but the amount of power generated from such batteries has been very small. Alpha and beta particles also possess kinetic energy by successive collisions of the particles with air molecules or other molecules. The bulk of the R&D of nuclear batteries in the past has been concerned with this heat energy which is readily observable and measurable. The magnetic energy given off by alpha and beta particles is several orders of magnitude greater than either the kinetic energy or the direct electric energy produced by these same particles. However, the myriads of tiny magnetic fields existing at any time cannot be individually recognized or measured. This energy is not captured locally in nature to produce heat or mechanical effects, but instead the energy escapes undetected. Brown has invented a way to "organize" these magnetic fields so the great amounts of otherwise unobservable energy could be harnessed.

The weight of the [strontium-90](#) used to generate 75 watts of power in the **Nucell** prototype is approximately the same as the weight of 2 millimeters of wire cut off the end of a small paper clip. Projected sizes of the Nucell battery will range from the size of a soup can to the size of a small barrel or waste can for a 50 kilowatt model. The alpha and beta particles utilized in the **Nucell** battery have a limited ability to penetrate matter; alpha particles can be contained by a piece of paper; beta particles require 0.03" of [aluminum](#). The **Nucell** battery is housed in a stainless steel, high-vacuum container, making it a safe, impermeable source of power.

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