

mGen™ Methanol Fuel Cell Power Generator / mGrid - Micro Grid / Hydrogen Recycling and Purification System (HRP)

Hydrogen is Power



▶ About Hipower

Hipower Green Technology Co., Ltd. focuses on the research and development of hydrogen energy applications, hoping to use hydrogen energy technology to improve the environment and raise the quality of human life. The challenges of energy overuse and global warming caused by population growth may be resolved by increasing the efficiency of energy use, using clean energy, reducing combustion, and waste heat discharge.

In order to move towards the era of hydrogen energy economy, Hipower acquires low-carbon hydrogen energy from methanol, which is easy to transport and utilize. Focusing on hydrogen economy, the mGen™ Methanol Fuel Cell Power Generator, mGrid - Micro Grid and Hydrogen Recycling and Purification System (HRP) have been alternatives to provide safer and eco-friendly energy options, heading in the direction of "energy independence," thus promoting the concept of clean life all over the world.

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▶ Product Introduction

| mGen™ Methanol Fuel Cell Power Generator

mGen™ Methanol Fuel Cell Power Generator is a pioneering methanol fuel cell equipment. Unlike gasoline or diesel, methanol used as fuel to generate power could lower large amounts of CO₂ emissions, and will not emit any harmful substance. This kind of fuel does not need to be purified after entering the methanol fuel cell power generator, therefore the power generation efficiency could reach up to more than 40%, and the overall efficiency will be further increased to 80% after undergoing heat recycling. The system parameters of the methanol fuel cell power generator are adjustable through remote monitoring management. It is suitable for use in 5G base stations, off-grid electricity usage in remote areas, EV charging stations and ships that require clean energy.



Reduce CO₂ emissions



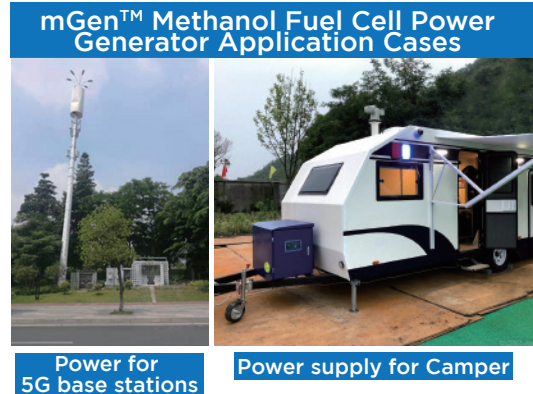
Compact and flexible



No hazardous substances

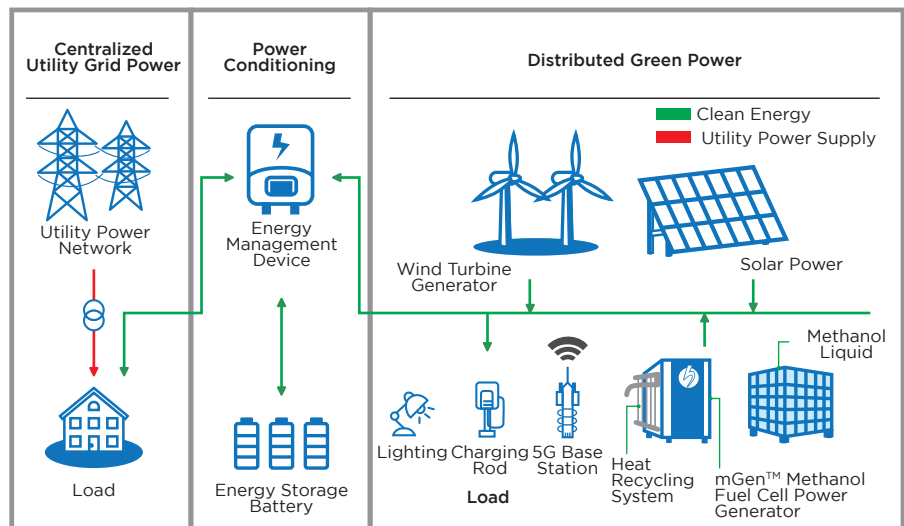


Low noise



| mGrid - Micro Grid

Hipower's mGrid - Micro Grid is a 7-25kWp micro grid system that integrates green energy, such as solar panels, mGen™ Methanol Fuel Cell Power Generator and battery energy storage and uses the utility power as backup power. Due to the intermittent of renewable energy, the entire system must be equipped with energy storage equipment as backup power. Therefore, the system combines mGen™ Methanol Fuel Cell Power Generator and secondary batteries to provide power, forming a low noise micro grid. At the same time, the system uses methanol instead of gasoline and diesel as fuel to resolve the issues about short battery lifecycle and intermittent supply of solar power, thus fulfilling the trend of utilizing clean energy in the future.



Schematic Diagram of mGrid - Micro Grid Architecture

| Hydrogen Recycling and Purification System (HRP)

In the semiconductor manufacturing processes, the tail gas contains a large amount of hydrogen, ammonia, and nitrogen. Particularly, in the metal organic chemical vapor deposition (MOCVD) process, the tail gas often contains a large amount of hydrogen. If the tail gas is recycled and purified, the hydrogen can be returned to the process for re-use. Hipower's Hydrogen Recycling and Purification System (HRP) can recycle up to 80% of hydrogen on average and produce highly pure hydrogen. Recovered hydrogen can be recycle back to the MOCVD process, which reduces the amount of hydrogen purchasing and improves energy efficiency.



Hydrogen Recycling and Purification System Photo

