



BUHLE POWER

Energy storage piston generator





Overview

How does a free piston generator work?

The free-piston engine can obtain different operating frequencies by varying the operating parameters, such as connecting rod mass and the mixing condition of fuel and gas, giving the generator different characteristics. The output range of the generator will affect the design and match of the rectifier and storage battery.

What is a free-piston engine generator?

A free-piston engine generator is a promising power generation system owing to its compact structure, multifuel combustion mode possibility, high power density, and less friction loss [9 – 11]. Due to the multifuel adaptability of free-piston engine generator, renewable fuels can be promptly employed, converting them into electrical energy .

What is a free piston linear generator?

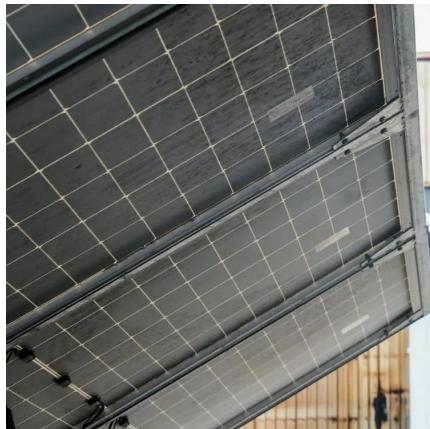
The free piston linear generator — development of an innovative, compact, highly efficient range-extender module. SAE Technical Paper: 2013-01-1727, 2013 Kock F, Heron A, Rinderknecht F, et al.

Is there a conflict of interest in a free piston engine linear generator?

The authors declare no conflict of interest. Moriya, K.; Goto, S.; Akita, T.; Kosaka, H.; Hotta, Y.; Nakakita, K. Development of free piston engine linear generator system part3-novel control method of linear generator for to improve efficiency and stability.



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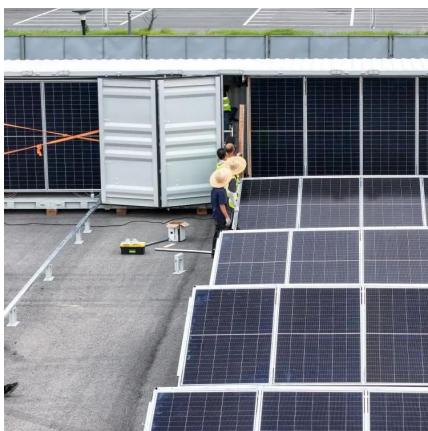


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An experimental study of a single-piston free piston linear generator

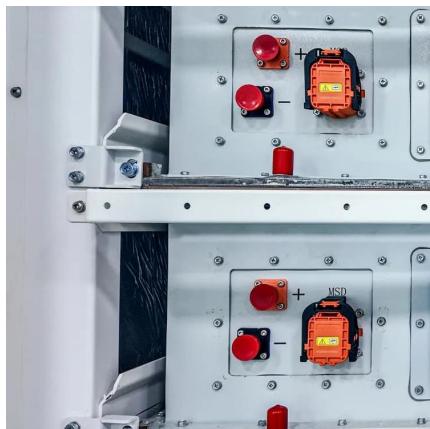
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Free-Piston Engine Generators and Linear Machines

Jun 3, 2025 · [2] Study on start-up characteristics of single piston free piston linear generator for small-scale compressed air energy storage system. Journal of Energy Storage (2024).



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