



High-rise flywheel energy storage

A typical system consists of a flywheel supported by rolling-element bearing connected to a motor-generator. The flywheel and sometimes motor-generator may be enclosed in a vacuum chamber to reduce friction and energy loss. First-generation flywheel energy-storage systems use a large steel flywheel rotating on mechanical bearings. Newer systems use carbon-fiber composite rotors that have a higher energy density (volume-based energy) due to their high mass density. Furthermore, they are superior to composite ones regarding energy storage efficiency.

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[Main components](#)
[Physical characteristics](#)
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