

# **The role of the flow battery magnetic pump**





## Overview

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How do magnetic drive pumps work?

Magnetic drive pumps use magnets to generate movement. These magnets are mounted on a carrier or drive assembly and are driven by a standard electric motor. For dynamic pumps, this drive assembly typically moves an impeller; for positive displacement pumps, it moves a mechanism which expands and contracts a cavity.

How do flow batteries work?

The flow batteries store electricity in the tanks of liquid electrolyte that is pumped through electrodes to extract the electrons. During the charging period, PV panels, wind turbines, or grid input is used for providing electrons to recharge the electrolyte. The electrolyte is stored in the tank during the storing period.

Why should you consider a magnetic drive pump?

Therefore low flow, dry running, suspended solids, or media with poor lubrication qualities all can affect the reliability and lifetime of these bearings, and should be taken into account when considering this type of pump. The magnets in a magnetic drive pump can demagnetize if exposed to temperatures above their upper limit.

What is the difference between dynamic pump and magnetic drive pump?

Dynamic pumps produce a variable flow suited for generating high flow rates with low viscosity fluids, while positive displacement pumps produce a constant flow suited for producing high pressures (and low flow rates) with high viscosity fluids. Magnetic drive pumps use magnets to generate movement.



## The role of the flow battery magnetic pump

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### [Overview of Flow Batteries](#)

Flow Batteries can play a transformative role for Long-Duration Energy Storage (LDES) Systems  
Duration of discharge vs. power rating

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### [Magnetic Drive Pumps Information](#)

Magnetic drive pumps are sealless centrifugal pumps that use a coaxial magnetic coupling to transmit torque to an impeller. They are energy efficient and can circulate a variety of fluids including acids, caustics, and oils. ...

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### [Magnetic Drive Chemical Pumps in Flow Battery Applications](#)

Magnetic drive chemical pumps are a solid choice for flow batteries and have had a proven track record in flow battery applications for more than 25 years. The durable design will ...

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### Key Considerations for Selecting Flow Battery Pumps and the ...

In a flow battery system, pumps play a critical role by circulating the electrolyte solution throughout the system. The performance and efficiency of the battery depend directly ...

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### Flow Battery

Flow batteries are defined as a type of battery that combines features of conventional batteries and fuel cells, utilizing separate tanks to store the chemical reactants and products, which are ...

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### Magnetic Drive Chemical Pumps in Flow ...

Magnetic drive chemical pumps are a solid choice for flow batteries and have had a proven track record in flow battery applications for more than 25 years. The durable design will allow for continuous, long ...

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## [ROLE OF PUMPS IN FLOW BATTERIES](#)

Magnetic drive centrifugal chemical pumps are used to move the electrolytes in the systems in a smooth, pulseless flow that is required for the batteries to operate properly.

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## [Flow Battery Pumps: Why Magnetic Drive Pumps Stand Out ...](#)

As the global demand for renewable energy and energy storage surges, flow batteries have emerged as a promising solution thanks to their scalability, long cycle life, and ...

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## [Magnetic Drive Pump Guide & How They ...](#)

How do magnetic drive pumps work? Generally speaking, pumps can be divided into two groups: mechanically sealed pumps and seal-less magnetic drive pumps. Rather than having a mechanical seal or ...

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### [Flow Batteries & Renewable Energy](#)

FTI pumps play a critical role for flow batteries & renewable energy. Mag-drive pumps are particular important to help store excess energy.

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