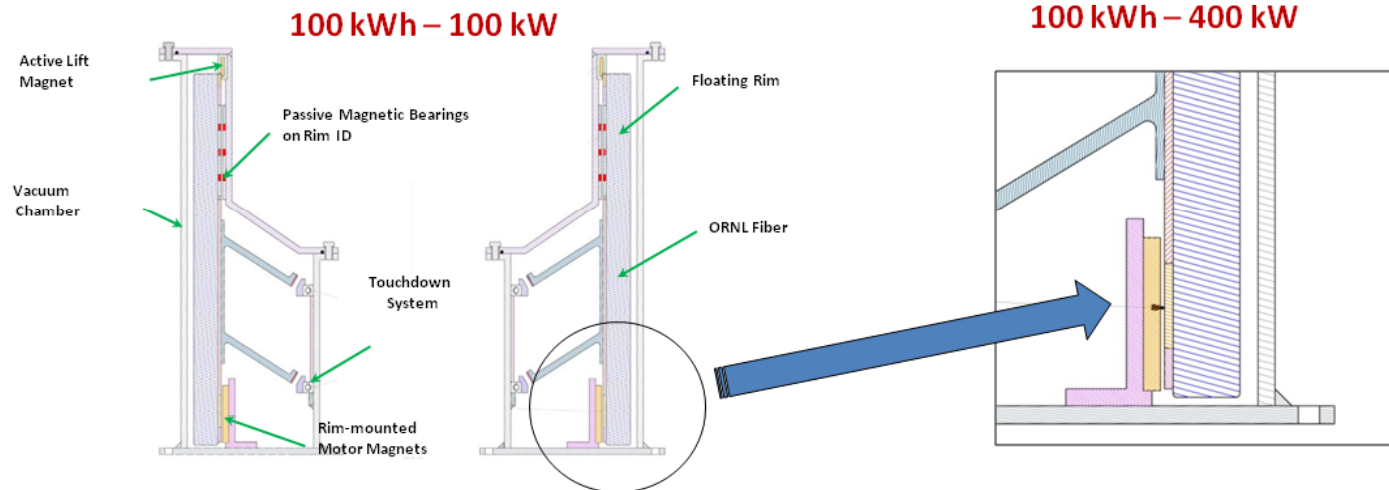


# Higher Power Motor for ARPA-E Flywheel



ARPA-E Hub-less Flywheel

Increase PM M/G Power Capability by 4 times



100 kWh – 100 kW

100 kWh – 400 kW

## Limitations of ARPA-E Flywheel

- 1 Hour of Storage
- Limited to Longer Term Applications
- Power Limited by Magnetic Properties

## Program Tasks

- Add Back-Iron to Stator to Increase Magnet Flux
- 400 kW Motor/Generator Test Bed
- Evaluate / Accommodate added Losses

**Additional Applications:  
Frequency Regulation, Frequency Response, and Pseudo-Inertia**