

VANADIUM FLOW BATTERY GENERATION 4.2

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KEY FEATURES

HEAVY DUTY BATTERY

- Multiple daily cycles
- Overrating functionality
- 30 000+ cycles

FLEXIBILITY

- Efficient operation under extreme ambient temperature conditions
- Millisecond response time
- 100% Depth of Discharge

NEIGHBOURHOOD FRIENDLY

- Non-Flammable
- Two stage leakage prevention
- Low noise emissions

SUSTAINABILITY & LIFETIME

- No degradation
- Water based, reusable Electrolyte
- 30 years lifetime



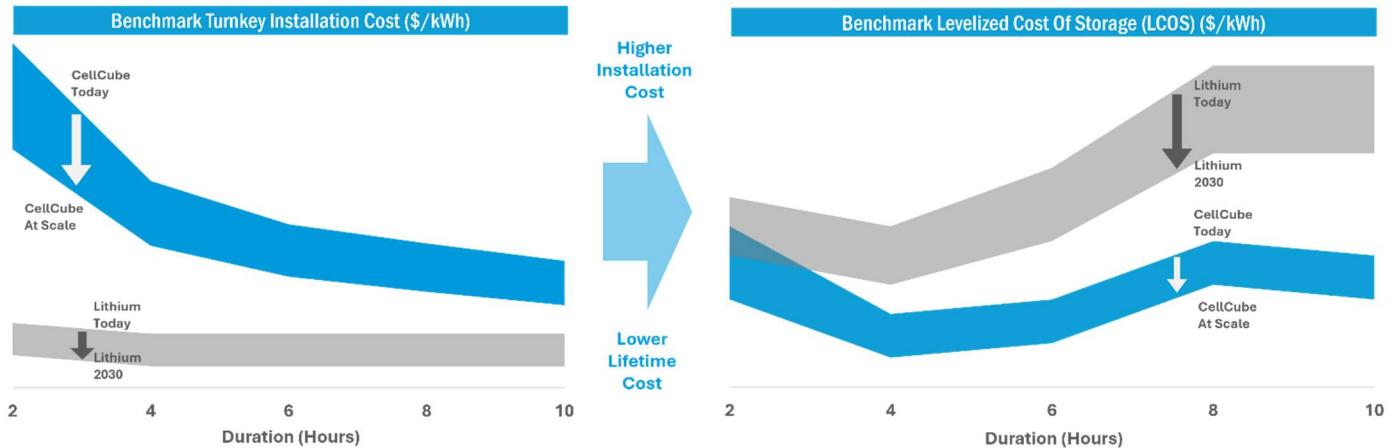
TECHNICAL DATA

TYPE	FB 333-4	FB 667-4	FB 333-8
Battery Technology	Vanadium Flow Battery		
Max. Charge DC Power	647 kW	1 294 kW	647 kW
Max. Discharge DC Power	515 kW	1 030 kW	515 kW
Max. Usable DC Energy	1 525 kWh	3 050 kWh	3 050 kWh
Discharge Durations	2 - 24 h		
Discharge Durations Begin of Life	467 kW @ 2 h 311 kW @ 4 h 230 kW @ 6 h 152 kW @ 10 h	934 kW @ 2 h 622 kW @ 4 h 460 kW @ 6 h 305 kW @ 10 h	392 kW @ 4 h 311 kW @ 8 h 273 kW @ 10 h 230 kW @ 12 h
Max. DC RTE	84%		
Response Time	< 5 ms		
DC Voltage Range	530 ... 910 V, IT-Grid		
Max. DC Current	1 000 A	2 x 1 000 A	1 000 A
Protection Devices DC	Fuses, insulation monitoring, surge protection device, main switch		
Auxiliary Supply	380 ... 415 V, 50/60 Hz, 3P+N+PE, TN-S-grid		
Auxiliary Power (avg / max.)	11 / 20 kW	22 / 40 kW	11 / 20 kW
Degree of Protection	IP 54		
Communication	Modbus TCP		
Cycle Life	> 30 000 @ 100% DOD		
Degradation	Average <0.5%/year; max. 10% over 30 years lifetime		
Lifetime	30 years		
Ambient Temperature	-15 °C ... + 45 °C ; optional: -40 °C ... + 45 °C		
Footprint	12.2 m x 4.9 m 40 ft x 16 ft	12.2 m x 7.4 m 40 ft x 24.3 ft	
Height	7.5 m / 24.6 ft		
Cooling Concept	Liquid cooling with dry cooler		
Noise Emissions	< 45 dB(A)	< 48 dB(A)	< 45 dB(A)
Enclosure Type	40' ISO HC-containers with C3 coating		
Total Weight	135 t	265 t	245 t
Certifications	CE		
Standards	IEC 62932; IEC 62933-5-1; IEC 62933-5-2; UL9540A		

RELIABLE ENERGY.
MAXIMUM SAVINGS.

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CellCube Customers Prioritise Best Performance, Safety, And Lower Total Cost Of Ownership



Lowest LCOS – Cost-Effective, Long-Lasting Storage

Designed for high cycling and long-duration applications, even in harsh environments. With no degradation, high efficiency, low OPEX, and a 30-year lifetime, CellCube ensures the lowest Levelized Cost of Storage (LCOS) and maximized return on investment (ROI).



Reliable Performance & Predictable Costs

Backed by 14 years of operational success (3rd party validated) and 25 years of expertise, CellCube delivers stable round-trip efficiency (RTE), high availability, and no degradation. Its proven technology eliminates augmentation costs and provides a financially sustainable, long-term energy storage solution.



Maximize Profitability with Flexible Revenue Stacking

CellCube’s Vanadium Flow Battery (VFB) seamlessly adapts to evolving energy markets. Unlock multiple revenue streams through energy shifting, peak shaving, frequency regulation, congestion management, and energy trading (Day Ahead & Intraday), while ensuring off-grid fuel reduction and long-term profitability.



USA



Brazil



South Africa