

Product Handbook 2024

i-Battery Energy Technology (Suzhou) Co., Ltd

IBTR Phoenix Stack Series

Product Design Visualization

↓ **20%** in weight

↓ **15%** in volume

At the same power level

Compared with last generation



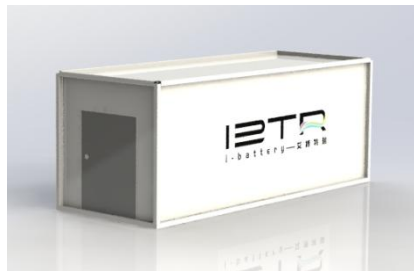


Performance Specifications

Rated Power	5kW	10kW	16kW	32kW
DC Voltage	32-52.8 V	64-105 V	32-52.8 V	64-105 V
Rated Current	160 A	160 A	480 A	480 A
Dimension	630*440*440 mm	630*440*850 mm	1000*620*430 mm	1000*620*780 mm
Weight	120 kg	224 kg	480 kg	880 kg
Energy Efficiency	>85% DC, >72% AC	>85% DC, >72% AC	>85% DC, >72% AC	>85% DC, >72% AC
Features	Pipeline: Single in, single out 110% long-term overload 200% short-term overload	Pipeline: Single in, single out 110% long-term overload 200% short-term overload	Pipeline: Double in, double out 110% long-term overload 200% short-term overload	Pipeline: Double in, double out 110% long-term overload 200% short-term overload

IBTR Vanadium Redox Flow Battery Solutions

Container Size	Capacity	Life span	Duration	Depth of Discharge	Cycle Count
20 foot	kWh level	25 years	2-10+ hours	100%	Unlimited
40 foot	MWh level				
Customized	GWh level				



➤ Grid-Scale Solutions:

IBTR Mercury Energy Storage System A	
Characteristics	<ul style="list-style-type: none"> ✓ All containers are highly integrated ✓ Load management, power quality and uninterruptable power supply ✓ For large centralized energy storage projects can save 30% of the floor space
Performance Specifications	
Rated Power	250kW
Dc Voltage	512V-844.8V
Rated Current	200A
Maximum Direct Current	390A
Size	20 foot container
Weight	8t
Energy Efficiency	DC>85%, AC>72%
Response Time	100 millisecond level
Operating Ambient Temperature (including standby and electrified shutdown states)	-35℃—45℃
Operating Humidity	5%—95%
Storage Temperature	0℃-50℃
Operating Altitude	3,000m
Life Cycle	25 years/16,000 cycles
Protection Level	IP54
Auxiliary Power	380V/AC, 50Hz, Three phase, Shut down: 100W, operation: 3kW~11.5kW
Standards and Codes	CE, IEC 62932, UL1973, GB/T 32509-2016
Communication Interface	RS485/Modbus TCP, Modbus RTU

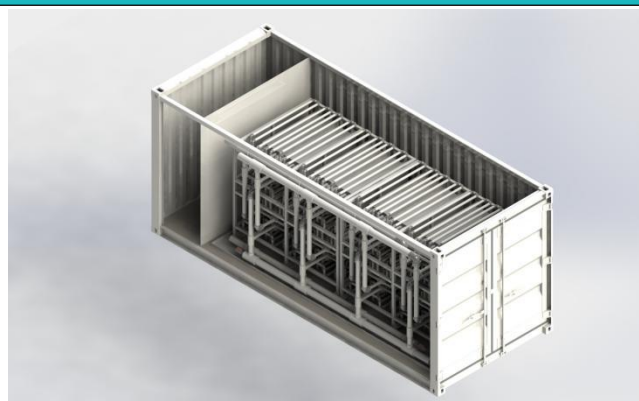
** Higher ambient temperatures can be customized for special environments*

Different Capacity Configurations for a 250kW System

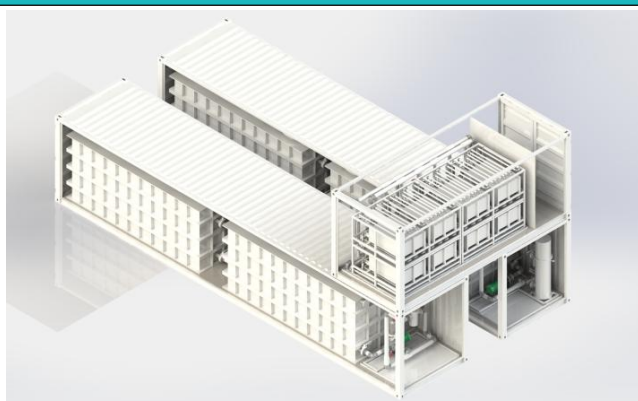
Storage Duration	4 Hours	6 Hours	8 Hours	10 Hours
Rated Capacity	1,000kWh	1,500kWh	2,000kWh	2,500kWh
Size/Space Requirements	8m*5m*3.5m	8m*8m*3.5m	8m*11m*3.5m	8m*14m*3.5m
Weight	80t	120t	160t	200t

** If you need to customize other specifications, please contact us*

Internal Structure Diagram



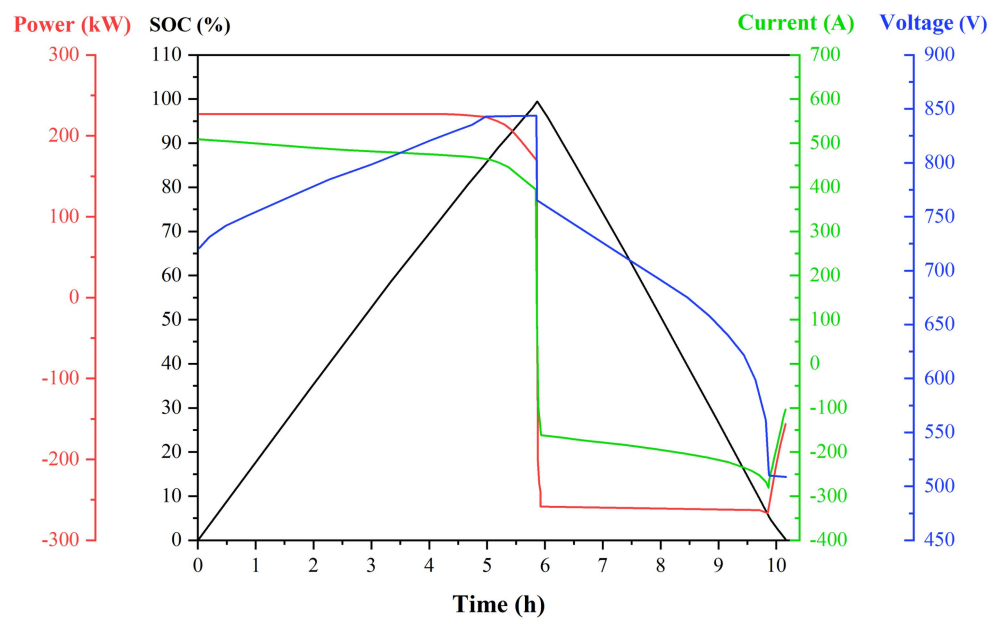
Appearance Diagram (4-hour system as an example)



Product Performances

Charge and Discharge

Curves



250 kW/1000 kWh

➤ Commercial and Industrial Solutions:

IBTR Mercury Energy Storage System B	
Characteristics	<ul style="list-style-type: none"> ✓ All containers are highly integrated ✓ Peak shaving, frequency control, energy arbitrage, backup power
Performance Specifications	
Rated Power	125kW
Dc Voltage	256V-420V
Rated Current	488A
Maximum Direct Current	586A
Size	40 foot high container
Weight	10t
Energy Efficiency	DC>85%, AC>72%
Response Time	100 millisecond level
Operating Ambient Temperature (including standby and electrified shutdown states)	-35℃—45℃
Operating Humidity	5%—95%
Storage Temperature	0℃-50℃
Operating Altitude	3,000m
Life Cycle	25 years/16,000 cycles
Protection Level	IP54
Auxiliary Power	380V/AC, 50Hz, Three phase, Shut down: 100W, operation: 3kW~11.5kW
Standards and Codes	CE, IEC 62932, UL1973, GB/T 32509-2016
Communication Interface	RS485/Modbus TCP, Modbus RTU

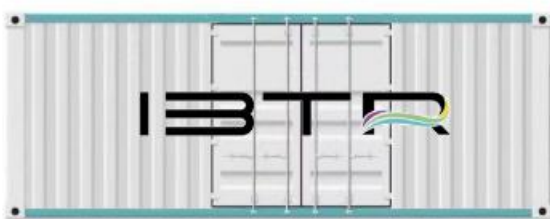
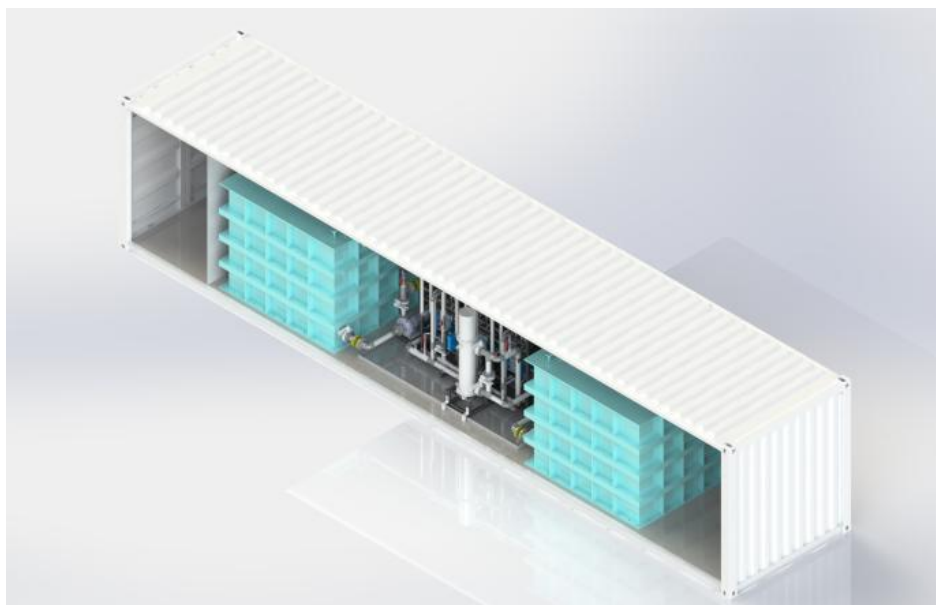
** Higher ambient temperatures can be customized for special environments*

Different Capacity Configurations for a 125kW System

Storage Duration	4 Hours	6 Hours	8 Hours	10 Hours
Rated Capacity	500kWh	750kWh	1,000kWh	1,250kWh
Size/Space Requirements	13m*2.5m*3m	16m*2.5m*3m	19m*2.5m*3m	22m*2.5m*3m
Weight	60t	80t	100t	120t

** If you need to customize other specifications, please contact us*

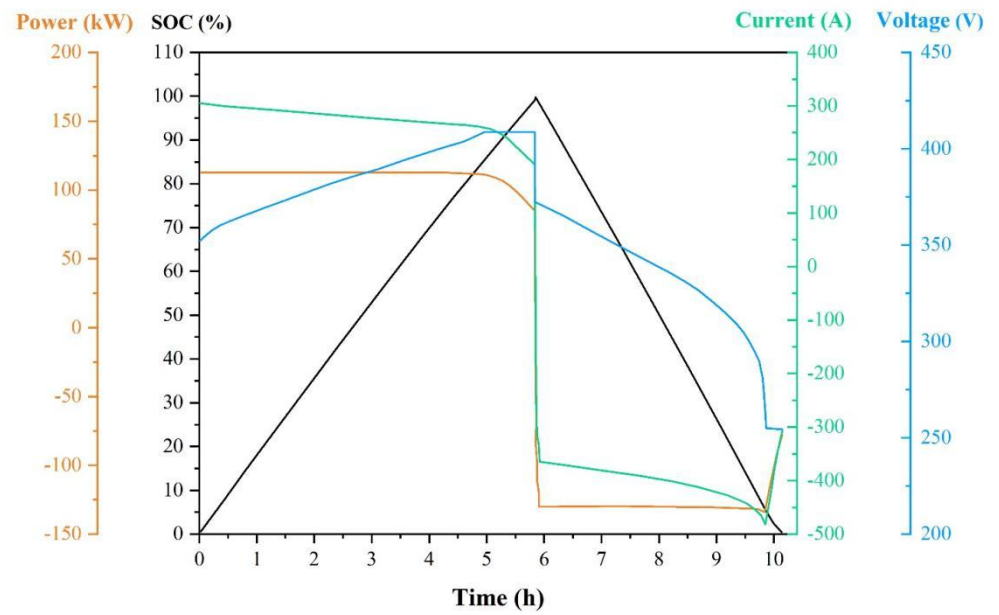
Appearance Diagram (4-hour 125kW system as an example)



Product Performances

Charge and Discharge

Curves

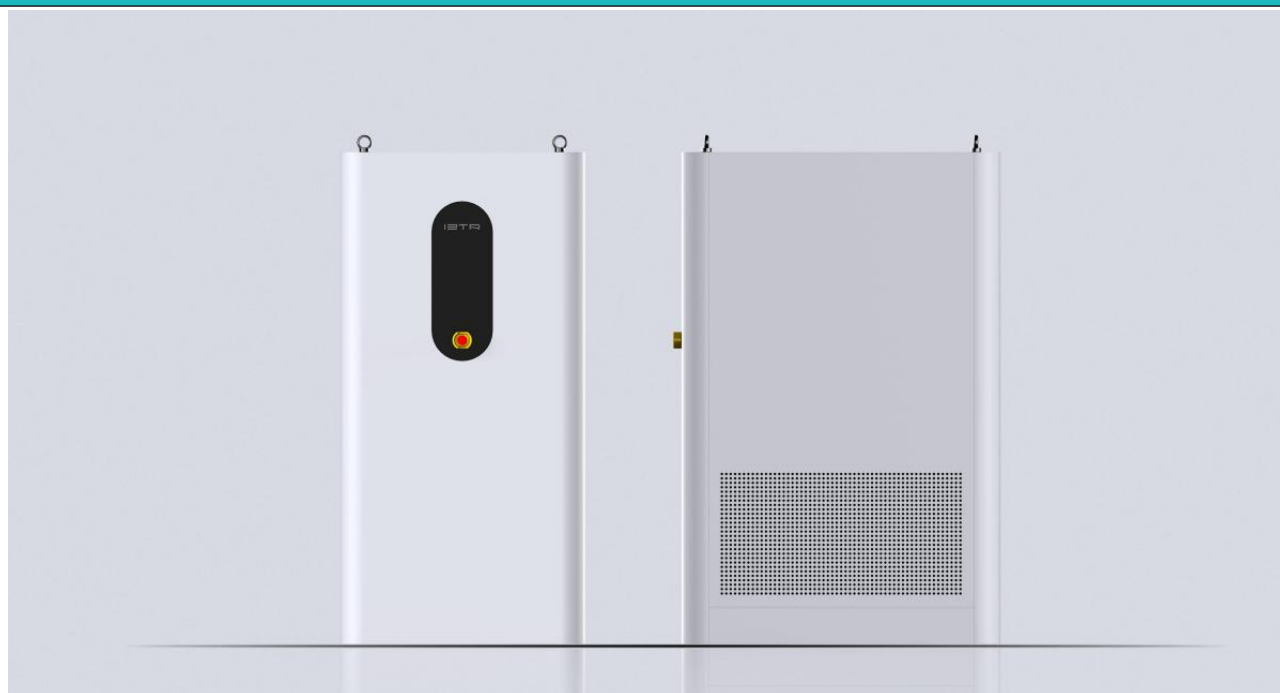


125 kW/500 kWh

➤ Residential Solutions:

IBTR Vanadis Energy Storage System				
Characteristics	✓ All-in-one			
	✓ Easy to install, plug and play			
	✓ Added control, reliability, and resilience			
Parameter Specifications				
Rated Power	2.5kW	2.5kW	5kW	5kW
Discharge Duration	4 hours	6 hours	4 hours	6 hours
Rated Capacity	10kWh	15kWh	20kWh	30kWh
Dc Voltage	16V-26.4V	16V-26.4V	32V-52.8V	32V-52.8V
Rated Current	125A	125A	125A	125A
Maximum Direct Current	95A-156.25A	95A-156.25A	95A-156.25A	95A-156.25A
Size (L*W*H, mm)	0.9m*1m*1.8m	1.1m*1m*1.8m	1.3m*1m*1.8m	1.5m*1m*1.8m
Weight (with Electrolyte)	900Kg	1,300Kg	1,700Kg	2,500Kg
Energy Efficiency	DC>85%、AC>72%			
Response Time	100 Millisecond			
Operating Ambient Temperature (including standby and electrified shutdown states)	-35℃—45℃			
Operating Humidity	5%—95%			
Storage Temperature	0℃-50℃			
Operating Altitude	<3,000m			
Life Cycle	25 years/16,000 cycles			
Protection Level	Indoor IP20/outdoor IP54			
Auxiliary Power	380V/AC， 50Hz， Three phase， Shut down： 30W， operation： 500W~1kW			
Standards and Codes	CE, IEC 62932, UL1973, GB/T 32509-2016			
Communication Interface	RS485/Modbus TCP, Modbus RTU			

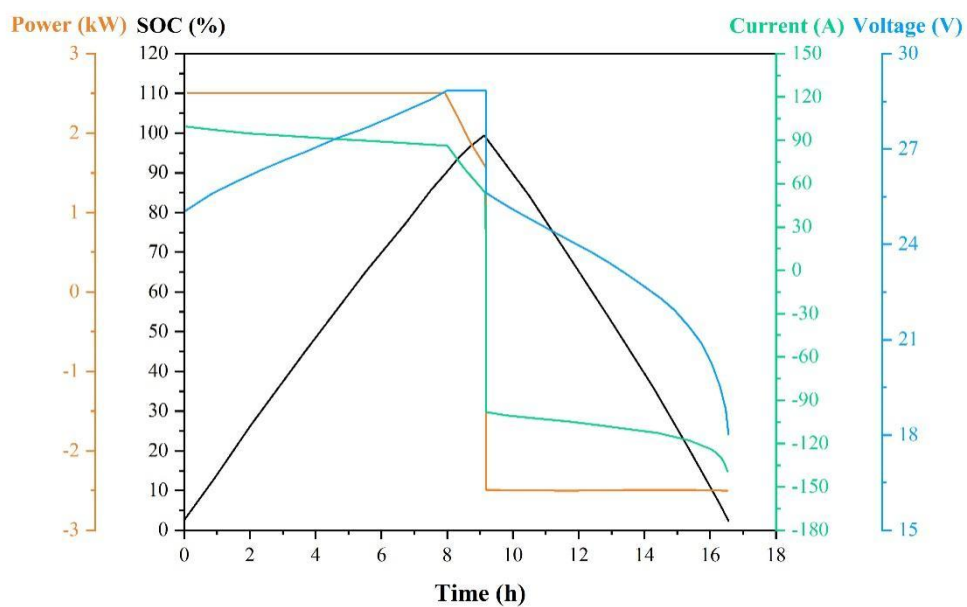
Appearance Diagram (All-in-one system as an example)



Product Performances

Charge and

Discharge Curves



2.5 kW/15 kWh

About i-Battery Energy Technology (Suzhou) Co., Ltd

i-Battery Energy Technology (Suzhou) Co., Ltd is committed to being an innovator in long-duration energy storage technologies. We specialize in the R&D, promotion, and application of Vanadium Redox Flow Battery (VRFB) technologies. Our mission is to accelerate the country's transition to a new energy system dominated by renewable sources and to facilitate national energy structure transformation through the industrialization of long-duration energy storage technology. Our core team has strong technical capabilities, each with over a decade of rich experience in the field of long-duration energy storage, dedicating to the development and production of proprietary products and new materials. The company has continuously achieved breakthroughs and optimizations in the core technology of liquid flow batteries, establishing high technical barriers. Technical highlights include our unique cell stack design, independently developed electrolyte formula and preparation technology, as well as advanced engineering systems and IoT cloud platforms, etc. While continuously improving the quality and performance of energy storage products, we effectively reduce costs. In addition, we attach great importance to the integration of the entire industry chain, ensuring close cooperation from raw material procurement to production, to achieve large-scale, intelligent production of a new generation of energy storage products that are "long-duration, low-cost, extremely safe, and more flexible."

Contact Information

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