



Chakr Innovation

Lithium-Ion (LFP) BESS Solutions

Utility-Scale & Commercial Energy Storage Systems

Scalable. Safe. Sustainable. Performance-Driven.



From 261 kWh commercial cabinets to 5 MWh utility containers - one safe, scalable LFP platform.

LiFePO₄ Chemistry

Liquid-Cooled

Up to 5 MWh

IEC 62619 · UN 38.3

Engineered for grid stabilization, renewables firming, peak shaving, backup power & EV charging.

5 MWh Liquid-Cooled BESS — 20 ft Container

A factory-integrated, 20 ft high-cube container delivering up to 5.016 MWh of LiFePO_4 storage with liquid-cooled thermal management and multi-stage fire protection — built for utility-scale grid and renewable applications.



Liquid Cooling Uniform thermal field, longer cycle life.



Fire Protection Multi-stage container-to-module system.



Smart-Sensing BMS Cell-level monitoring & protection.



Plug & Play Factory-tested packs, TMS & FPS integrated.

Technical Specifications

ELECTRICAL

Cell Chemistry	LiFePO_4 (prismatic LFP)
Rated Energy	5.016 MWh
System Configuration	314 Ah · 1P416S × 12 clusters
Battery Voltage Range	1164.8 – 1497.6 V DC
Nominal Container Voltage	1331.2 V DC
Rated Charge / Discharge	0.5 C
Round-Trip Efficiency	>88%
Cycles	>8000
Auxiliary Supply	3P+N 400 V AC / 50 Hz
Cooling Concept	Liquid cooling

GENERAL

Dimensions (L×W×H)	6058 × 2438 × 2896 mm
Weight	< 43 t
Enclosure / IP Rating	IP55, outdoor
Operating Temperature	−30 °C to +55 °C
Operating Humidity	5–95% non-condensing
Working Altitude	≤ 2000 m
Noise	< 80 dB @ 1 m
Fire Suppression	Aerosol (multi-stage)
Communication	CAN / RS485 · EMS IEC 61850
Life Time (1 cycle/day)	>15 years

Standards & Compliance: IEC 62619 · IEC 61000 · IEC 62477 · IEC 62933 · NFPA 855 · UN 38.3 (transport).

418 kWh & 261 kWh All-in-One Liquid-Cooled C&I BESS

A compact, outdoor-rated commercial & industrial cabinet integrating LFP batteries, liquid cooling, BMS and fire protection. Scalable from 1 to 10 cabinets, with on-grid and off-grid operation. Available as 418 kWh and 261 kWh variants.



Safe 3-level BMS, 6-level electrical protection & comprehensive fire safety.



Versatile Back-to-back & side-by-side; 1–10 cabinet scaling.



Economical Low auxiliary draw & high RTE for lower energy cost.



Smart Active cell balancing; cloud + mobile app (optional).

Technical Specifications

ELECTRICAL	418 kWh	261 kWh
Cell Chemistry	LiFePO ₄ (prismatic LFP)	LiFePO ₄ (prismatic LFP)
Rated Energy	418 kWh	261 kWh
System Configuration	314 Ah · 1P416S	314 Ah · 1P260S
Battery Voltage Range	1164.8 – 1497.6 V DC	715-936 V DC
Nominal Container Voltage	1331.2 V DC	832 V DC
Rated Charge / Discharge	0.5 C	0.5 C
Round-Trip Efficiency	>88%	>88%
Cycles	>8000	>8000
Auxiliary Supply	3P+N 400 V AC / 50 Hz	3P+N 400 V AC / 50 Hz
Cooling Concept	Liquid cooling	Liquid cooling

GENERAL	418 kWh	261 kWh
Dimensions (L×W×H)	1300 × 1350 × 2350 mm	1450 × 1330 × 2150 mm
Weight	< 4.5 t	< 2.65 t
Enclosure / IP Rating	IP55, outdoor	IP55, outdoor
Operating Temperature	–30 °C to +55 °C	–30 °C to +55 °C
Operating Humidity	5–95% non-condensing	5–95% non-condensing
Working Altitude	≤ 2000 m	≤ 2000 m
Noise	< 80 dB @ 1 m	< 80 dB @ 1 m
Fire Suppression	Aerosol (multi-stage)	Aerosol (multi-stage)
Communication	CAN / RS485 · EMS IEC 61850	CAN / RS485 · EMS IEC 61850
Life Time (1 cycle/day)	>15 years	>15 years

Applications



Grid Energy Storage

Grid stabilization & frequency regulation.



Renewable Integration

Firming & shifting of solar and wind.



Peak Shaving

Demand-charge reduction & load shifting.



C&I Backup

Industrial & commercial power backup.



Microgrids

Off-grid & remote community power.



EV Charging

Rapid & long-duration charging support.

Why Chakr LFP BESS

88%

Round-trip efficiency

-30 to +55 °C

Climate-ready operation

1 – 10

Cabinet scalability

Plug & Play

Factory-integrated



Certifications & Reference Standards

IEC 62619 (Battery Safety), IEC 62477 (Power Converter Safety), IEC 61000 (Electromagnetic Compatibility), IEC 62933 (Energy Storage System Standards), IEC 62485 (Battery Installation Safety), NFPA 855 (Fire & Installation Safety), NFPA 69 (Explosion Prevention), IEC 61439 (Switchgear Assemblies), and UN 38.3 (Transport Safety).

Configure the right BESS for your project

Talk to the Chakr Innovation team → www.chakr.in



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