# EPES5000

EP ENERGY

**5MWh Liquid Cooling Energy Storage Container**
**For Large-Scale Sustainable Energy Infrastructure**


### High Energy Density

- 5MWh in a 20HQ container
- Up to 340kWh/m² AED
- Maximized space utilization

### Robust Performance

- Stabilizes the grid and prevent outages
- Supports volatile and extreme power demands
- Intelligent TMS ensuring long cycle life

### Safe Design

- High quality LFP cells
- NFPA 68&69 compliance FFS
- Highly integrated Fire Suppression System

### Easy & Efficient

- Unit ships, Ready to operate
- Pre-assembled for easy onsite installation
- Minimal maintenance required



| Battery Parameters | |
|---|---|
| Cell Type | LFP |
| Nominal Voltage | 1331.2 Vdc |
| Operating Voltage Range | 1040-1500 Vdc |
| Nominal Capacity | 314 Ah |
| Nominal Energy | 5015 kWh |
| Charge/Discharge Rate | 0.5C |
| System Configuration | 416S12P |
| Module Nominal Energy/Configuration | 104.5kWh/ 1P104S |
| **System Parameters** | |
| Maximum System Efficiency | ≥93.8%@0.5P,≥95.2%@0.25P |
| Charge/Discharge Rate | 0.5P |
| Continuous charging/discharging Current | 1884A |
| Short Circuit Current | 98kA@ Single Rack |
| Insulation standard | ≥1000Ω/V |
| Withstand voltage | 4500VDC, Leakage Current ≤5mA, No Breakdown or Flashover |
| Depth of Discharge | 0~97% |
| SOE Accuracy | <3% |
| Operating Altitude | <3,000m, Derating Above 3,000m |
| Operating Relative Humidity | 5~95%RH, No Condensation |
| Operating Temperature Range | -20℃~55℃ |
| Thermal Management Mode | Liquid Cooling & Heating |
| Rated Auxiliary Power Supply Power | 27 kW @ Ambient 35℃, 33.5 kW @ Ambient 45℃ |
| Rated Cooling Capacity | 60 kW @ Ambient 35℃, 55 kW @ Ambient 45℃ |
| Rated Heating Power | 27 kW |
| Fire Protection System | Active Warning+ Container Aerosol + PACK Level Immersion + Water Spray |
| Ingress Protection | Battery Room IP55 / Electric Room IP54 |
| Anti-Corrosion Grade | C4 |
| Dimension(W*D*H) | 2,438 mm*6,058 mm*2,896 mm |
| Weight | ~44,000 kg |
| Cell Certification | UN38.3, UL1973, IEC62619, UL9540A, GB/T 36276 |
| System Certification | IEC62477, IEC62619, IEC 62933, IEC63056, IEC60730<br>UL1973, UL9540A, UL9540, NFPA855, NFPA68, NFPA69 |

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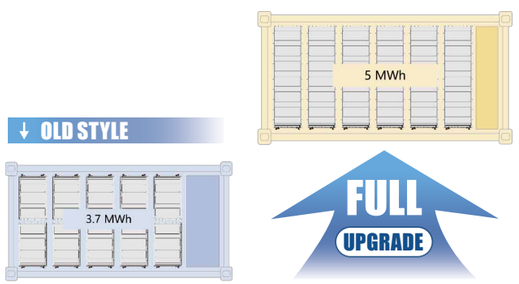
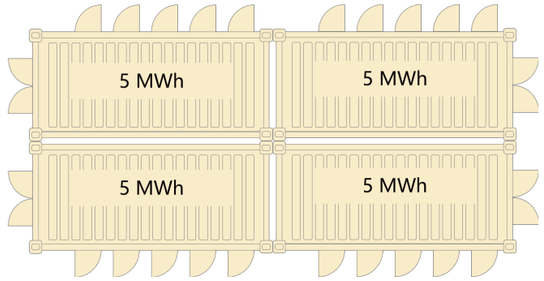
## Optimized for Higher Energy Density

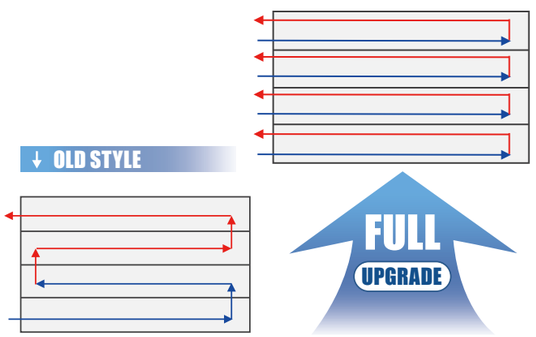


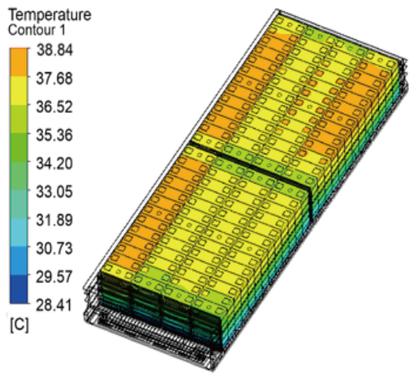




Nominal energy upgrades by 35% from 3.7MWh to 5MWh in a 20HQ container, due to internal space optimization, cell capacity upgrade and single-side maintenance. Battery capacity upgraded by 12% from 280Ah to 314Ah. Battery quantity increased by 20% from 4160 to 4992. Battery array increased by 20% from 10 to 12.

New model maximizes space utilization (improved by 26% from older version). With single-side maintenance design, containers can be installed back-to-back and shoulder-to-shoulder onsite.

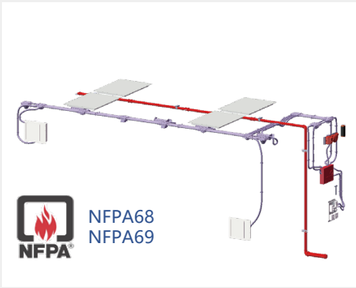
## Parallel Flow Channel



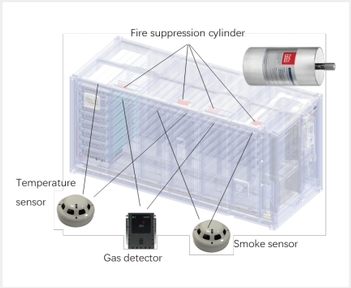




Compared with traditional serial flow channel, the flow resistance of parallel flow channel at the same flow rate is reduced by **85.5%**. The maximum temperature difference between cells is kept under **2.78℃**.

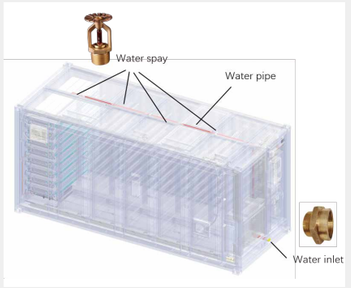
## Fire Suppression NFPA 68 & 69 Compliance



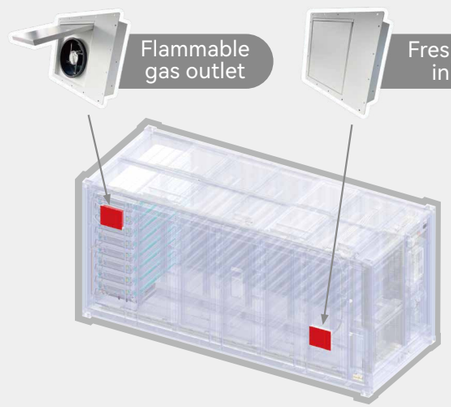

FFS Configuration



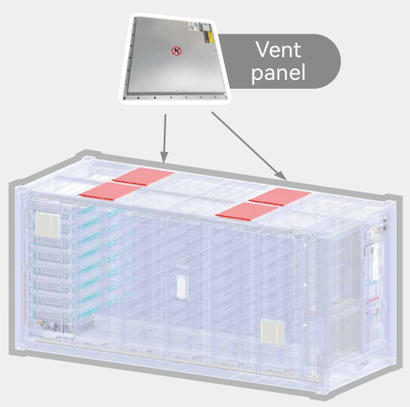

Aerosol Cylinder Layout




Water Pipe Layout




Ventilation (NFPA69)




Explosion Prevention (NFPA68)

## Example Project Showcase

Texas, USA 226MWh Frequency Regulation

Batam, Indonesia 28MWh Frequency Regulation