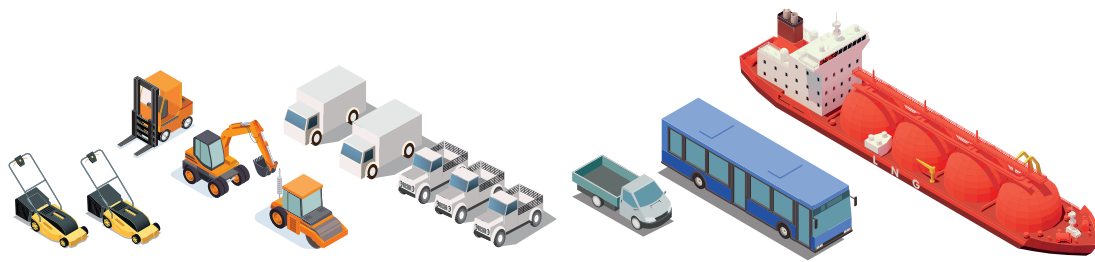




We provide e-Powerpacks which meet the needs for customer's sustainability.

e-Powerpacks can be implemented in various mobility environments including construction, off-highway vehicles, agricultural machines, electric carts, trucks, buses, ESS, etc.



51V 20kWh

708V 84kWh

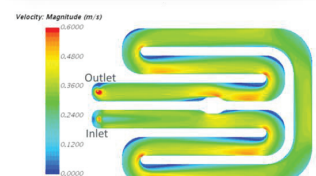
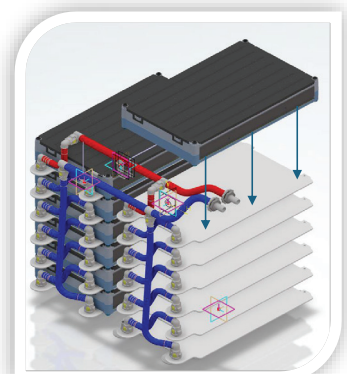


## Technical Strength

# Thermal Management

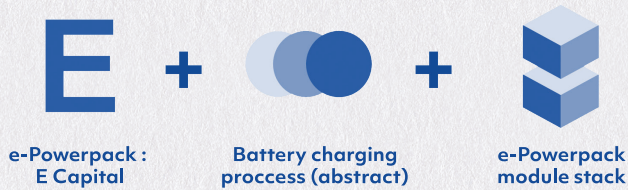
A variety of heating and cooling methods can be flexibly applied with minimal module modifications.

Non-Cooling	PTC heating film	Liquid cooling & heating plate
Low-voltage battery pack (51V) Operation temperature : 0 ~ 60°C	Low-voltage battery pack (51V) Thickness : 5mm -20 ~ 60°C	High-voltage battery pack (above 350V) Thickness : 7.7 ~ 9.2mm -20 ~ 60°C
	<p>Common Use</p>	





## Total e-Power Solutions: Powering a Sustainable Future.



### High Energy Density

- Wire Bonding Technology
- Structural Adhesive
- 2nd BMS on each module



### High Reliability

- Long-life cells
- Efficient Thermal Management
- Reliable Validation Process
- Proven Durability through CE Vehicles



### High Safety

- Thermal Runaway Prevention/Detection
- Functional Safety available (ISO26262 ASIL-C)
- High SoX accuracy, Fail-safe daisy-chain



### High Scalability

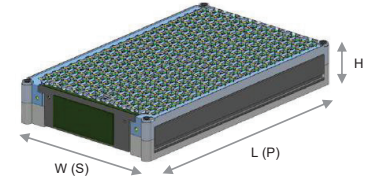
- Easy to design a customized battery pack by Standardized module design
- Easy to apply the next generation cells by adopting standardized cells





# NMC Battery Lineups

Provide flexible solutions to meet the customer requirements with multiple module options.



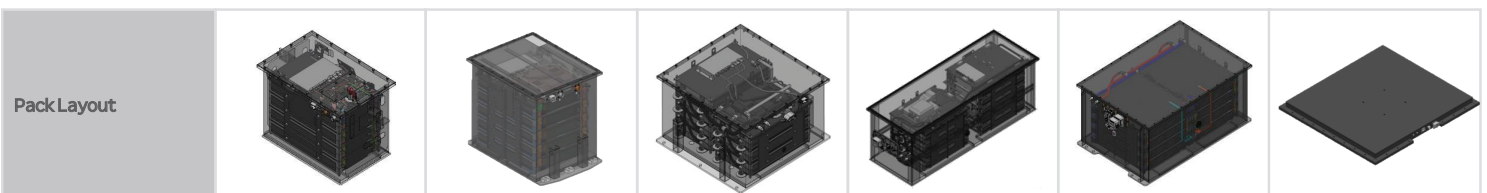
## Module

Model name	BC05	BC07	BC08	BC11
Chemistry	NMC	NMC	NMC	NMC
Cell configuration	20P14S	23P16S	22P20S	24P24S
Dimensions (L×W×H, mm)	507×303×79.8	578×346×79.8	553×429×79.8	505×601×79.8
Weight (kg)	21.9	29.6	36.3	44.9
Nominal voltage (V)	51.66	59.04	73.8	88.56
Rated capacity (kWh)	Total	5.1	6.7	10.5
	Usable*	4.6	6.0	9.4
Energy density	416 Wh/L (222 Wh/kg)	419.8 Wh/L (226.1 Wh/kg)	422.6 Wh/L (224.2 Wh/kg)	432.7 Wh/L (233.3 Wh/kg)

\* Usable rated capacity is with 90% depth of discharge (DoD) condition.

## Standard Pack

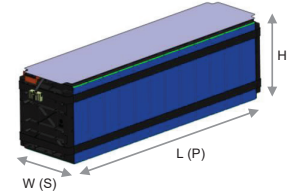
Model	HBP020-05HCA	HBP032-08HCA HBP040-08HCA	HBP035-05CCA	HBP072-08CCA	HBP084-11CCA	HBP073-11CCA
Module	BC05 – 4P	BC08 – 4/5P	BC05 – 7S	BC08 – 9S	BC11 – 8S	BC11 – 7S
Nominal Voltage	51.4 V	73.8 V	361.6V	664 V	708.5 V	619.9V
Total Capacity	396.9 Ah (20.4 kWh)	433.6Ah(32kWh) / 542.0 Ah (40 kWh)	98.7 Ah (35.7 kWh)	108.4 Ah (72.1 kWh)	118.4 Ah (83.9 kWh)	73.4 kWh
Usable Capacity	357.2 Ah (18.9 kWh)	390.2Ah(28.8kWh) / 487.8 Ah (36 kWh)	88.9 Ah (32.1 kWh)	97.6 Ah (64.9 kWh)	106.6 Ah (75.5 kWh)	62.4 kWh
Weight (kg)	130	243	290	450	530	480
Dimension (mm)	552 × 350 × 432	610 × 480 × 543	657 × 700 × 420	1518 × 516 × 510	1107 × 760 × 520	1,708 × 1,850 × 125
Ingress Rating	IP65		IP66	IP67		
Thermal Management	PTC Heating			Liquid Cooling & Heating		
Operation Condition	Discharge: -20~60°C (over 55°C & under 10°C, derating) / Charge: 0~55°C (over 45°C, derating / under 0°C, heating)					





# LFP Battery Lineups

Provide flexible solutions to meet the customer requirements with multiple module options.



## Module

Model name		FS05	FS09	FS12
Chemistry		LFP	LFP	LFP
Cell configuration		1P16S	1P12S	1P12S
Dimensions (L*W*H, mm)		633×136×224	690×178×230	906×179×230
Weight (kg)		34.03	52.2	70.8
Nominal voltage (V)		51.2	38.4	38.4
Rated capacity (kWh)	Total	5.4	8.8	11.7
	Usable*	4.8	7.9	10.5
Energy density		278.8 Wh/L (158.0 Wh/kg)	312.9 Wh/L (169.2 Wh/kg)	312.5 Wh/L (164.8 Wh/kg)

\* Usable rated capacity is with 90% depth of discharge (DoD) condition.

## Standard Pack

Model	HBP035-09CSA (Sub-Pack)	HBP141-09CSA	HBP047-12CSA (Sub-Pack)	HBP187-12CSA	HBP064-05HSA
Module	FS09 – 4S	FS09 – 16S	FS12 – 4S	FS12 – 16S	FS05 – 12S
Nominal Voltage	153.6 V	614.4 V	153.6V	614.4 V	614.4 V
Total Capacity	230 Ah (35.3 kWh)	230Ah(141.3kWh)	304 Ah (46.6 kWh)	304 Ah (186.7 kWh)	105 Ah (64.5 kWh)
Usable Capacity	207 Ah (31.8 kWh)	207Ah(127.2kWh)	274 Ah (41.9 kWh)	274 Ah (168.0kWh)	94.5 Ah (58.0 kWh)
Weight (kg)	290	1,300	375	1,500	630
Dimension (mm)	880 × 767 × 271	936 × 1,626 × 755	1,096 × 773 × 271	1,147 × 1,638 × 755	988 × 742 × 615
Ingress Rating	IP67				
Thermal Management	Liquid Cooling / Heating				PTC Film Heating
Operation Condition	Discharge: -30~55°C / Charge: 0~55°C				





# POWERPACK

**EUROPE PDC**



**Location**  
Klampovenweg 50, 2850 Boom, Belgium

**KOREA PDC**



**Location**  
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**Incheon Campus**



**Location**  
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**Function**  
R&D, Manufacturing, Global Sourcing

**NA PDC**



**Location**  
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\*PDC : Parts Distribution Center

**HDIEU**



Europe Office

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**HDIES**




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**HDIEC**




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**Function**  
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**HDINA**



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**Function**  
Sales, Customer Support, Parts Distribution



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