

# CONTAINERISED STORAGE SYSTEMS

## Range Overview Specification Sheet

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Model Number Breakdown:

Container Size: **6M** - 200 - 100 - 1.1

Battery Size: **200**

Inverter Size: **100**

Battery Qty: **1.1**



Series (Base Building Block) <a href="#">i</a>	6M-200-100			6M-300-150			6M-200-150	12M-300-150	12M-500-250	12M-500-500		12M-885-500	18M-664-500	18M-885-500
Model <sup>1</sup>	6M-200-100-1.1	6M-200-100-2.1	6M-200-100-2.2	6M-300-150-1.1	6M-300-150-2.1	6M-300-150-2.2	6M-200-150-2.2	12M-300-150-4.2	12M-500-250-2.1	12M-500-500-2.1	12M-500-500-4.1	12M-885-500-2.2	18M-664-500-4.2	18M-885-500-4.2

### Product Overview

Total Storage [kWh]	200		400		300		600		400		1200		1000		2000		1770		2656		3540		
Max. Power [kW]	100			200		150			300				250		500			1000					
Expansion Options <sup>2</sup>	6M-200-100-2.1 or 6M-200-100-2.2	6M-200-100-2.2		N/A		6M-300-150-2.1 or 6M-300-150-2.2	6M-300-150-2.2		N/A			12M-300-150-6.2 (on demand)	12M-500-250-4.2 (on demand)		12M-500-500-4.1		N/A			18M-885-500-4.2		N/A	
Certifications	EN62109-1/-2, EN62477-1, EN61000-6-2, EN61000-6-4, South Africa NRS097-2-1:2017, IEC61727, IEC62116, IEC 61683																						
Warranty <sup>3</sup>	10 Year on Battery / 10 Year on Inverters / Back-to-back on Sundry Items																						
BMS Communication	RS485, CAN																						
EMS Communication <sup>4</sup>	RS485, TCP/IP																						

### Value-Added Features

Deployment	Plug-and-play																						
Cable Entry	Bottom and side entry (Glanding plate provided)																						
Monitoring and Control	Freedom Won EMS with 1-Year Cloud Software License for 5 Devices - Online monitoring, data logging, remote control capability, power meter integration and 3rd party PV string inverter control																						
Fire Detection and Suppression	Fire detection panel (EN 54 approved), smoke detectors, indicator bell and siren; high sensitivity smoke detection air sampler (HSSD) Inert gas fire suppression for the electrical risk (IG541) All approved to BS EN 15004 with the design concentration of higher-class A for electrical risk and verified by an approved test report and approval BSI (British Standard Institution)																						

AC In and AC Out (Termination Box) [A]	315					500					800					1600				
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### Container Specifications

Grade	Grade A														
Material	COR-TEN steel - White														
Size [m]	6							12				1 x 12 and 1 x 6			
External Height [mm]	2884														
Weight Estimate [kg]	7320	8860	10000	8310	10680	11990	10330	18490	15900	17490	25320	25480	25290 + 11560	29720 + 11560	
Cladding	Fluted Chromadek - White														
Insulation	50mm Rock Wool														
Flooring	Light grey 3mm polyurethane rubberising														

### Battery Specifications (per battery building block)

Battery Chemistry	Lithium Iron Phosphate (LiFePO4)																	
Battery Model <a href="#">(f)</a>	<a href="#">200/160 HV</a>			<a href="#">300/240 HV</a>			<a href="#">200/160 HV</a>		<a href="#">300/240 HV</a>		<a href="#">500/400HV+</a>			<a href="#">megaTower Plus 6M4T 885kWh</a>	megaTower Plus 6M3T 664kWh	<a href="#">megaTower Plus 6M4T 885kWh</a>		
Nominal Voltage [V]	512						640						691					
Service Life	>16 years (>5 500 cycles) expected life at 80% DoD per cycle, >20 years (>7 500 cycles) at 50% DoD										>15 yrs (>8 000 cycles) at 80% DoD							



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Inverter Size: 200  
Inverter Qty: 1  
Battery Size: 100  
Battery Qty: 1.1

**6M-200-100-1.1**



Series (Base Building Block) <a href="#">i</a>	6M-200-100			6M-300-150			6M-200-150	12M-300-150	12M-500-250	12M-500-500		12M-885-500	18M-664-500	18M-885-500
Modules <sup>1</sup>	6M-200-100-1.1	6M-200-100-2.1	6M-200-100-2.2	6M-300-150-1.1	6M-300-150-2.1	6M-300-150-2.2	6M-200-150-2.2	12M-300-150-4.2	12M-500-250-2.1	12M-500-500-2.1	12M-500-500-4.1	12M-885-500-2.2	18M-664-500-4.2	18M-885-500-4.2

### Inverter Specifications (per inverter building block)

Inverter Make and Type	Encore HPS Hybrid Inverter							
Inverter Model ⓘ	<a href="#">HPS100</a>		<a href="#">HPS150</a>			<a href="#">HPS250</a>	<a href="#">HPS500</a>	
Nominal Output Voltage [V]	400							
Rated Outut Power [kW] <sup>5</sup>	100	200	150	300	250	500	1000	
AC Connection	3W+N+PE							
Output Frequency [Hz]	50/60							
THDi/THDu [ % ]	<3 / ≤1 linear; or ≤5 nonlinear							
Power Factor	1 lagging~1 leading							
Standby Power [W]	<20							

### Optional PV Components (maximum possible values/quantities stated)

#### MPPT Charge Controller Specifications

MPPT Mode	Buck MPPT						Boost MPPT					
Max. Number of MPPT Modules <sup>6</sup>	3	6	4	8	5	10	20					
Max. MPPT Power [kW]	60											
Max. PV Power [kW]	240	480	240	480	360	720	1440					
Recommended PV Input Voltage Range [V]	600~880				450~650							
Max. Number of Charge Controller Cabinets	Built into inverter				1	2	4					

#### Photovoltaic Combiner Specifications

PV Coupling	DC													
Max. Number of PV Strings	1 x 24		2 x 24		1 x 24		2 x 24		1 x 48		2 x 48		4 x 48	
Max. PV Input Voltage [V]	1000													
Max. Input String ISC [A]	20													
Input Fuse [A]	25													
Max. Number of Outputs (Breakers)	4		8		4		8		6		12		24	
Max. Number of Strings per Output	6								8					
Output Breaker Rated Current [A]	125													
Output Cable Terminal [mm²]	50													
PV SPD Specification [V]	1200 (Type I + Type II)													
Protection	Short-circuit, overload and surge													



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### Ordering Information

Lead Time	6-8 Weeks
Customisation Options <sup>7</sup>	Advanced <a href="#">EMS</a> features and additional device licenses available

### Notes to Specification Sheet

1. CSS base models include batteries, inverters, fire detection and suppression systems, and the Freedom Won EMS. PV components such as MPPTs, MPPT cabinets, and PV combiner boxes are sold separately.
2. If an expansion option is required that is not currently available as a standard model option, please inform Freedom Won of this requirement.
3. See relevant battery and inverter warranties for further details on warranty guarantees and conditions.
4. To enable EMS functionality on the load and main supply, RS485 or Modbus TCP compatible 3-phase power meters are required. Additionally, they must have an auxiliary power supply. All third-party devices must also be TCP/IP and Modbus TCP compatible to communicate with the EMS.
5. Any motors exceeding 7% of the selected HPS inverter's power rating must be fitted with a VSD. The total connected inductive load without VSDs may not comprise more than 15% of the HPS inverter's rated power.
6. Please refer to the HPS specification sheets for the maximum number of MPPT charge controllers compatible with each HPS inverter model.
7. Additional EMS features and device license are available upon request, please contact Freedom Won for more information.

