MES

MAGNA ENERGY STORAGE

50 KWh HE3DA 3D Battery Cell

40' High Cube Container

50 KWh HE3DA 3D Battery Cell

Basic technical parameters

Description	50 KWh heavyweight, slowly charging cell designated for long-term storage of electricity from renewable sources, working in 12-hour cycles
Weight	approx 500 kg
Volume	approx 300 liters
Capacity	50 KWh
Efficiency	96 - 99%
Lifespan	20 years or 5,000 cycles
Active material	NMC (nickel manganese cobalt oxide) / Graphit
Cooling	Passive via aluminum housing, with the possibility of connecting active via the inner electrolyte
Charging discharging currents	1,000 A
Simultaneous charging and discharging	Yes
Maximum overload	C15 - C20 according to capacity leads
Permitted long term overcharging	Yes
Operating zone	5% - 100%, long term discharging to 0% reduced lifespan
Recommended operating voltage	3 V - 4.2 V (90% of effective capacity)
Maximum voltage range	2 V - 4.3 V

Space requirements for energy storage centers

Storage hall 1,000 m² with a height of 7 m can accommodate 600 MWh battery capacity (safe service deployment for easy replacement of defective cells).

40' High Cube Container containing 50 KWh HE3DA 3D Battery Cells

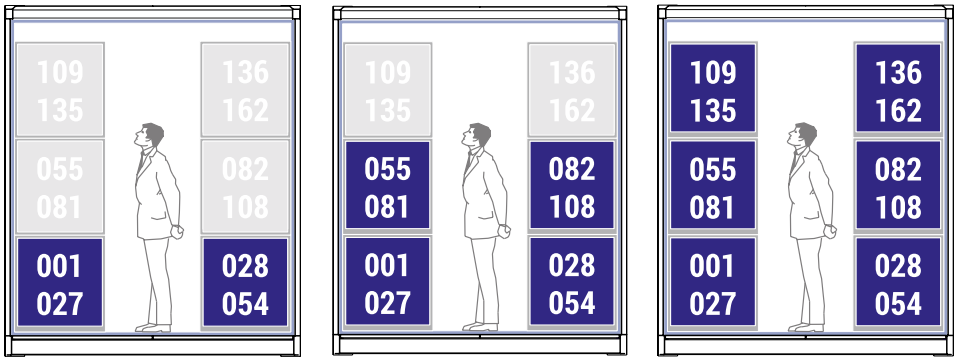
Basic technical parameters

Description	5 MWh container designated for long-term storage of electricity
Weight	approx 55,000 kg
Volume	40' High Cube Container
Capacity	5 MWh (max. 8 MWh)
Efficiency	96 - 99%
Lifespan	20 years or 5,000 cycles
Active material	NMC (nickel manganese cobalt oxide) / Graphit
Cooling	Passive via aluminum housing, with the possibility of connecting active via the inner electrolyte The entire container - air compressor backup cooling system with an installed power of 30 KW
Charging discharging currents	1,000 A
Simultaneous charging and discharging	Yes
Maximum overload	4,000 A
Permitted long term overcharging	Yes
Operating zone	5% - 100%, long term discharging to 0% reduced lifespan
Input voltage range	134 V - 430 V
Output voltage range	96 V - 300 V
Charging time	12 hours

Battery management

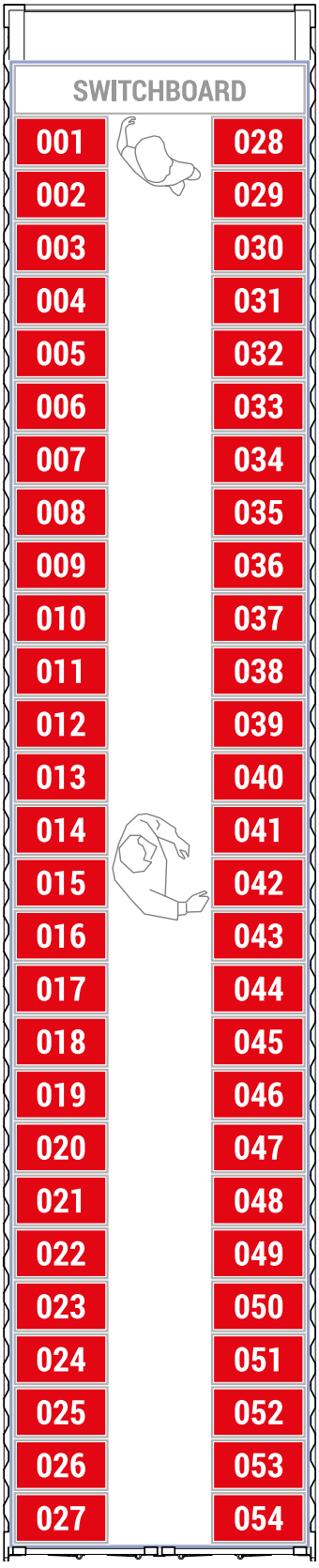
Individual cells are connected to each other via an automatic disconnector.
Each cell will be monitored by a central control unit. In case of failure, computer remotely disconnected it and switched to the backup cell. This prevents disconnection of the entire container or interruptions or voltage drops. Container storage device will keep operating and exchange of a faulty cell can be done up to several days or months according to service maintenance plan.

Section cuts (total capacity)



2.7 MWh | 5.4 MWh | 8.1 MWh

Floor plan



Whole new generation of high-power batteries | The safest lithium battery in the world | 100% recyclable

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