



## Datasheet

# Hybrid Energy Storage Systems

HESS 80 kWh / 36 kVA

HESS 100 kWh / 48 kVA

HESS 120 kWh / 60 kVA

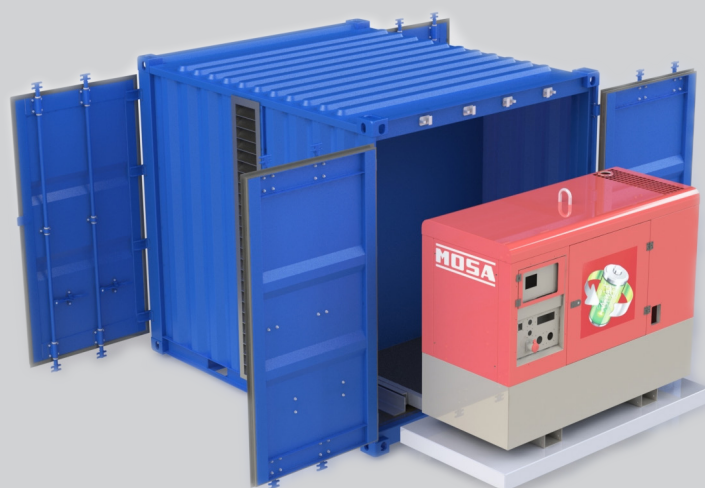
- Model Container

Version

1.00

Edition

04.2021



With the help of **Hybrid Energy Storage Systems (HESS)**, MOSA Aggregaten BV offers gen-set users the opportunity to **reduce their Carbon footprint**. This **HESS** is build-in in a 10ft or 20ft container, depended of the capacity and customer needs. The container has at two sides double doors, at one side the generator and on the other side the hybrid inverters and batteries are placed.

### Working of the system

At low power needs, the inverters will deliver the power to the load. When there is more power then needed, the generator will start and deliver power to the load and will also charge the batteries with the power that's not needed for the load. If there is more power needed by the load then the generator could deliver, the inverters will also deliver power at the same time as the generator. *(This is the peak shaving function that runs fully automatically)*

### Fuel and emission savings

Practical tests have shown that **fuel and Carbon emission savings of 30% up to 60%** are no exceptions.

This gives you a three-fold **Return Of Investment** When using our hybrid energy storage system:

- 1) **Less CO2 emissions, increases your chances of tendering according to the CO2 performance ladder.**
- 2) **Up to 30 to 60% fuel savings.**
- 3) **lower maintenance costs and longer gen-set life.**

**Hybrid Energy Storage Systems** with PV-string input sockets could also feed the energy produced by the solarpanels directly to the consumers or charge the batteries and result in higher savings and a better return of investment.

### Used main components

**Hybrid Energy Storage Systems**, built into a container feature **"MOSA" / "ExtreMe Power"** hybrid (solar) on/off grid inverters with **"ExtreMe Power LiFePo4"** 20 kWh batteries. The 20 kWh batteries feature a built-in DC main switch and communication-bus for status notification on the inverter's display.

### Lifetime of components

The expected life-cycle of the used batteries and hybrid inverters is 8 up to 12 years.

### System warranty

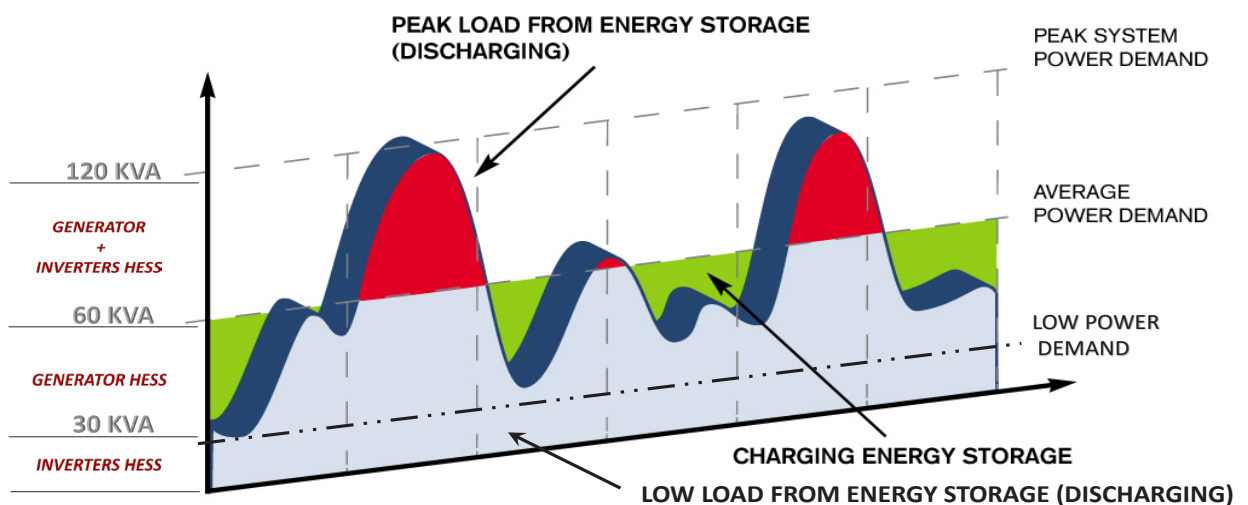
The **Hybrid Energy Storage Systems** has a standard warranty of 1 year after delivery, but the main components of the energy storage system have a longer warranty period.

\* Batteries: 3 year manufactor warranty

\* Hybrid inverters: 5 year manufactor warranty

*note: \* only when used as described by manufactor*

A return of investment  
< 4 years is possible



- Average load is supplied by generators with peak load supplied by Energy Storage
- Total load is below generator capacity, spare generation capacity charges Energy Storage.
- Low power demands is supplied by inverters only of the Energie Storage

Specifications	ESS 80kWh/36kVA	ESS 100kWh/48kVA	ESS 120kWh/60kVA
Generator capacity (kVA) (Stage 3a/Stage 5)	45	60	60
Total energy storage capacity (Kwh)	80	100	120
Usable storage capacity in kWh	72	90	108
Inverter @100% 1 phase 230V/50Hz (kVA)	12	16	20
inverter @100% 3 fase 400V/50Hz (kVA)	36	48	60
Maximum power output (KVA)(Gen + inverter)	80	100	112
Frequency selection (Hz) (depending Genset)	50/60	50/60	50/60
ExtreMe Power LiFePo4 batt. 400 Ah/51,2V DC	4 pcs	5 pcs	6 pcs
Charge batteries from 0 to 100% in hours	2,5 - 4	2 - 4	2,5 - 4
Batteries with intelligente BMS	yes	yes	yes
BMS status at inverter display	yes	yes	yes
Battery status monitor ( V,A,Ah en %)	yes	yes	yes
Surge protection Type 1+2 (12,5kA/80kA)	2 pcs	2 pcs	2 pcs
AC+ DC main leakage current monitor	yes	yes	yes
<6mA DC leakage current statement	yes	yes	yes
Every socket with RCD, type A	Yes	yes	yes
Multi mode Hybrid on/off grid inverter	3 pcs	4 pcs	5pcs
3 x PV-string input (2000 - 5500 Wp2)	option	option	option
Active temperature control	yes	yes	yes
Cooling fans (1200 pa / -15...+70° C)	2 pcs	3 pcs	4 pcs
Pre coarse + fine air filters (water cleanable)	yes	yes	yes
Battery low / charge alarm (LED + Buzzer)	yes	yes	yes
Remote monitoring and control by PC and App	yes	yes	yes
Socket panel in consultation customer	yes	yes	yes
Environment temp.@100% load	-15 tot 45	-15 tot 45	-15 tot 45
* Other configurations on request			
Dealer prices	Call us	Call us	Call us



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