

CARBON BATTERY



THE REVOLUTIONARY ENERGY STORAGE

Unlike lithium batteries standard lead acid batteries have a big discharge capacity (up to C_3^*). Indeed, a much longer charging time (up to 10 hours, $\approx 0,1$) must be accepted to prevent sulfatization which would shorten the lifetime of the battery. The new lead carbon technology provides a solution for this problem: Using carbon additives guarantees much less sulfatization of the negative electrode. Thus, the battery can be charged faster than a standard lead acid battery.

Modern lithium battery systems can also be charged within less than an hour, but the discharge capacity is very low: It must not exceed 50-70% of the battery capacity ($\approx C_{0,5-07}$).

The fast charging is a significant progress in lead carbon technology, since the charging current for the daily cycle mode can be adjusted at 20-30% of the battery capacity ($\approx 0,2-0,3C$). Therefore, it is possible to recharge a discharged battery within several hours.

Moreover, the lead carbon battery is ideal for partial state of charge (PSOC) applications. Hereby the cycle rate of the battery increases several times in comparison with the standard lead acid battery.

Despite its heavier weight and bigger volume per kilowatt hour the lead carbon battery is more cost effective than the lithium battery.

In terms of security the lead battery is tried and tested for a long time and has no competitors. For transport, storage and usage no special measures are required. Due to its carbon additive,

The lead carbon battery is suitable for a much bigger temperature range than the standard lead acid battery. Unlike lithium batteries it doesn't need a cooling system.

The recycling rate of 97% is one more pro argument for the lead carbon battery, since the recycling of lithium batteries remains an unresolved problem.

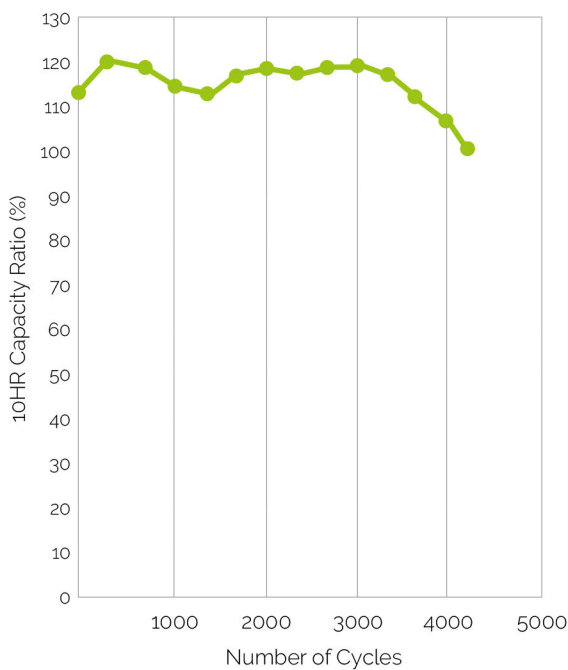
* C = battery capacity in Ah

CARBON BATTERY

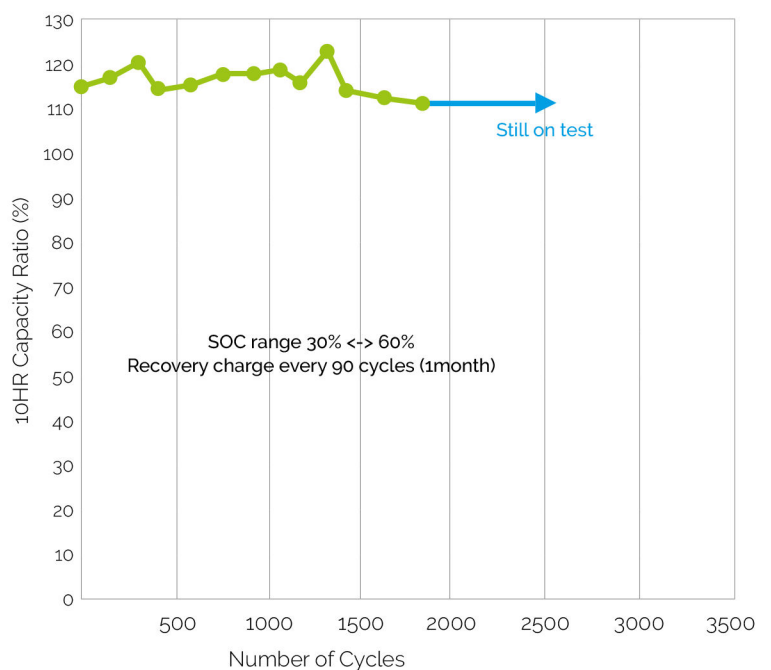
SPECIFICATIONS

Nominal voltage	2V
Max. current	Discharge: 0,4C ₁₀ A
	Charge: 0,2C ₁₀ A
Nominal capacity @25°C	500Ah (C ₁₀) / 1000Ah (C ₁₀)
Nominal capacity	1000Wh / 2000Wh
Cycles	More than 4200 cycles at 70% DoD
Technology	Japan Technology

70% DOD CYCLE TEST



PSOC CYCLE TEST



CERTIFICATES



RoHS

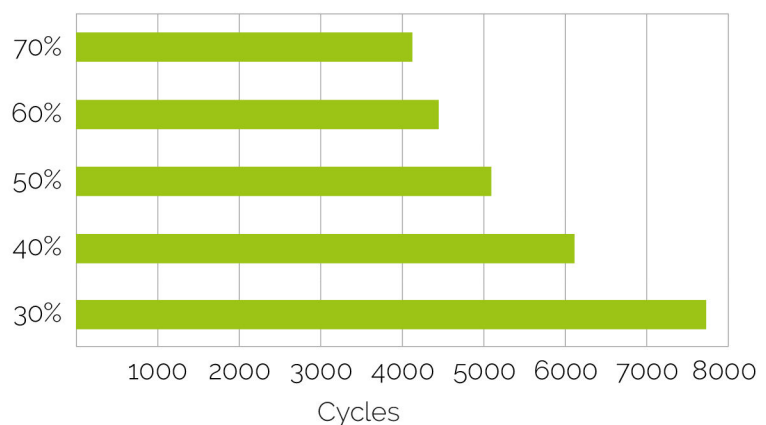


SAFETY



DoD

CYCLES NUMBER



batterx.io

CARBON BATTERY

DIMENSIONS & POIDS

2V 500Ah
(HxWxL)
508x172x166 mm
41 kg

2V 1000Ah
(HxWxL)
508x172x303 mm
75 kg



CONSTANT CURRENT DISCHARGE SPECIFICATIONS: 25°C, 1,80V/CELL

2V500Ah

Discharge time (h)	1	2	3	4	5	6	7	8	9	10
Constant current (A)	361,6	209,7	152,4	121,6	102,0	88,4	78,3	70,5	64,3	59,2
Constant power (W)	675,9	398,4	292,4	234,8	198,0	172,3	153,2	138,4	126,5	116,7

2V1000Ah

Discharge time (h)	1	2	3	4	5	6	7	8	9	10
Constant current (A)	689,6	405,6	297,4	238,6	201,1	174,9	155,4	140,3	128,2	118,3
Constant power (W)	1310,5	774,6	569,5	457,8	386,5	336,6	299,5	270,6	247,5	228,5

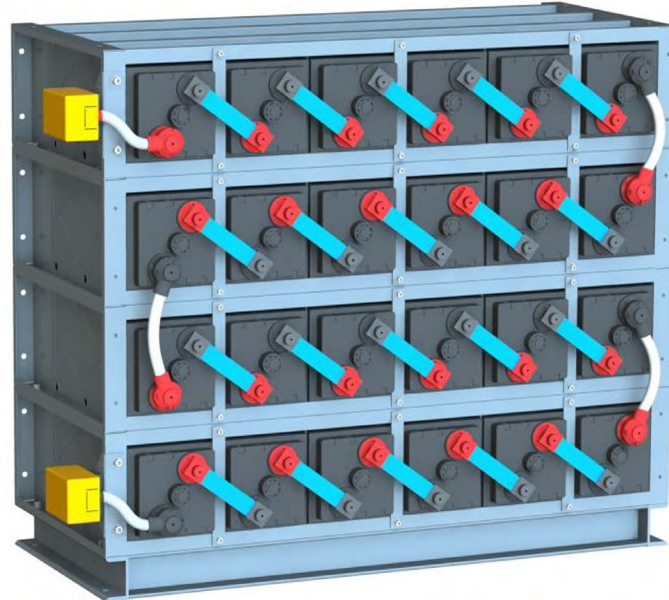
CARBON ENERGY PACK

24KWH

Life time energy: 70560kWh
>4200 cycles at 70% DoD
Weight: 1200kg

Dimensions:

976(H) x 1125(W) x 515(L), mm

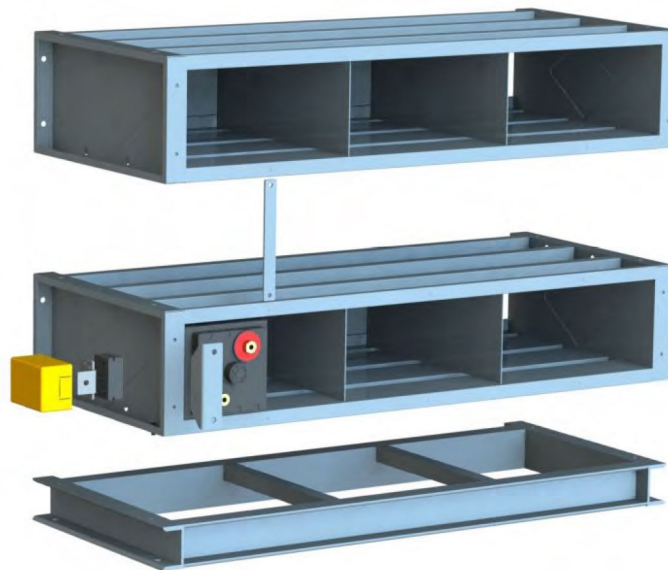


48KWH

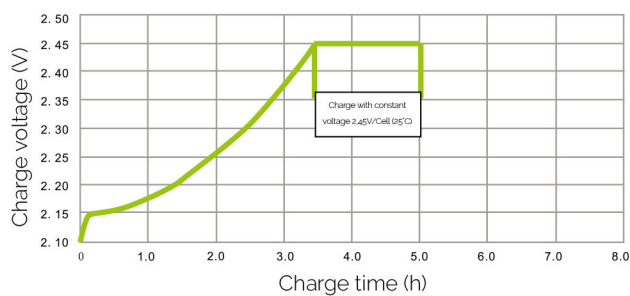
Life time energy: 141120kWh
>4200 cycles at 70% DoD
Weight: 2100kg

Dimensions:

1524(H) x 1125(W) x 475(L), mm



CYCLE CHARGE CURVE



EQUALIZING CHARGE CURVE

