



### LIVEN LVH Series

AGM (Absorbent Glass Material) technology with gas recombination. The LVH series Valve Regulated Lead Acid (VRLA) battery is designed for heavy load discharge applications with 15 years design life in float service.

By using strong grids and specially designed active material is with lower I.R, lower self discharge rate, high power, and longer service life performance.

Generally the LVH series offers 30% more power output than the standard range.

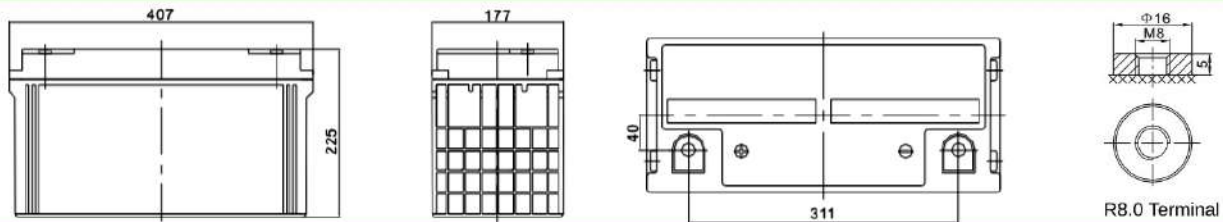
### Applications:

- High Power
- UPS
- Datacenters
- Emergency backup PW
- Security system
- Communication power supply
- DC power supply
- Electric Tools

### Dimensions:

Length	407±1mm (16.0in)
Width	177±1mm (6.97in)
Height	225±1mm (8.86in)
Total Height	225±1mm (8.86in)

### Technical Drawings:



### Specifications:

<b>Cells Per Unit</b>	6
<b>Voltage Per Unit</b>	12V
<b>Nominal Capacity</b>	450W @15min-rate to 1.67V per cell @25°C
<b>Weight</b>	Approx. 36.50Kg ±2% (80.47lbs)
<b>Internal Resistance</b>	Approx. 4.5mΩ
<b>Terminal</b>	R8.0
<b>Max. Discharge Current</b>	1200A (5sec)
<b>Design Life</b>	15 years floating Eurobat (20°C): >12 years Very Long Life
<b>Recommended Maximum Charging Current</b>	36.0A
<b>Reference Capacity</b>	C20 120Ah
<b>Standby Use Voltage</b>	13.6V~13.8V @ 25°C Temperature Compensation: -3mV/°C/Cell
<b>Cycle Use Voltage</b>	14.6V~14.8V @ 25°C Temperature Compensation: -4mV/°C/Cell
<b>Operating Temperature Range</b>	Discharge: -15°C~50°C Charge: -10°C~45°C Storage: -15°C~50°C
<b>Normal Operating Temperature Range</b>	25°C±5°C

### Self Discharge

LIVEN Valve Regulated Lead Acid (VRLA) batteries can be stored for up to 6 months at 25°C and then recharging is recommended. Monthly Self-discharge ratio is less than 3% at 25°C. Please charge batteries before using.

### Container Material

A.B.S. UL94-HB, UL94-V0 Optional.

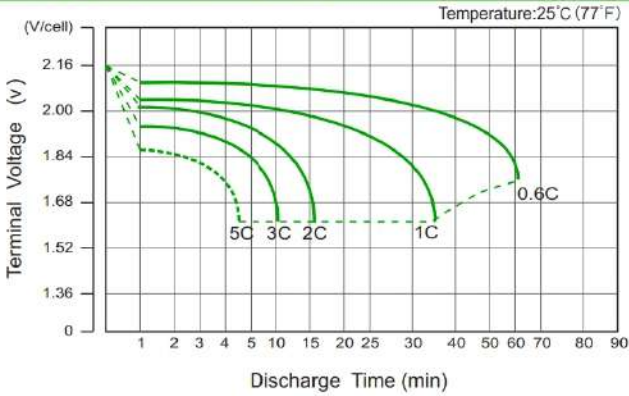
### Constant Current Discharge (CC, Unit: A) at 25°C (77°F)

F.V./ Time	5min	8min	10min	15min	20min	30min	60min	90min
1.60V	404.7	342.5	319.7	248.9	202.6	149.4	86.4	62.0
1.67V	367.3	314.1	295.4	232.1	190.5	141.3	82.5	59.5
1.70V	351.7	301.9	284.8	225.0	185.1	137.9	80.8	58.4
1.75V	324.7	281.2	267.0	212.9	175.9	132.1	78.0	56.5
1.80V	297.5	260.4	249.2	201.4	167.6	126.5	75.2	54.7
1.85V	255.3	221.8	211.1	173.2	145.5	111.9	67.9	49.9

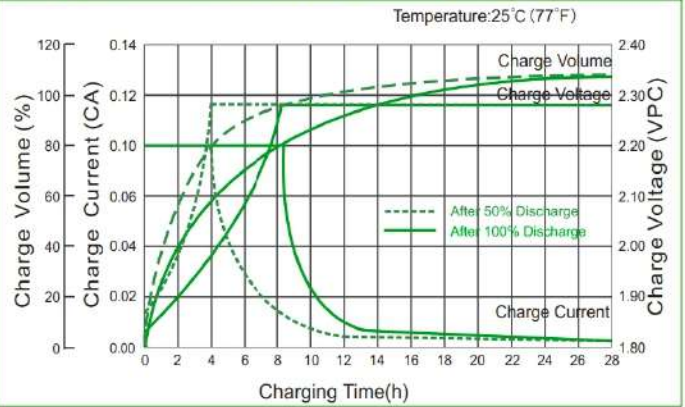
### Constant Power Discharge (CP, Unit: W/Battery) at 25°C (77°F)

F.V./ Time	5min	8min	10min	15min	20min	30min	60min	90min
1.60V	4462.2	3826.8	3607.2	2846.4	2337.0	1741.2	973.8	704.4
1.67V	4153.2	3590.4	3404.4	2700.0	2230.2	1669.8	937.2	681.0
1.70V	4016.4	3482.4	3309.6	2637.6	2182.2	1636.2	922.2	671.4
1.75V	3769.2	3291.0	3143.4	2523.6	2094.6	1582.2	897.0	653.4
1.80V	3508.2	3089.4	2968.2	2411.4	2015.4	1526.4	870.0	635.4
1.85V	3055.8	2668.2	2548.2	2095.8	1765.8	1362.0	791.4	584.4

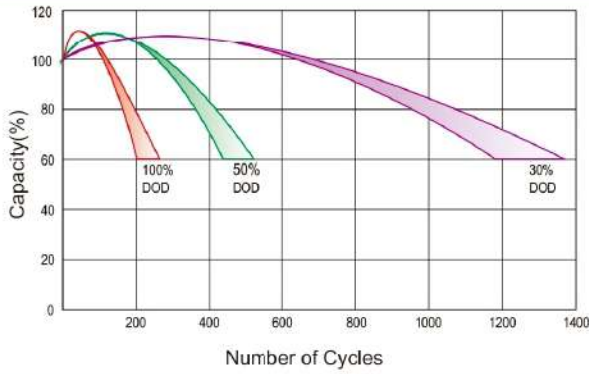
**Discharge Characteristics Curve**



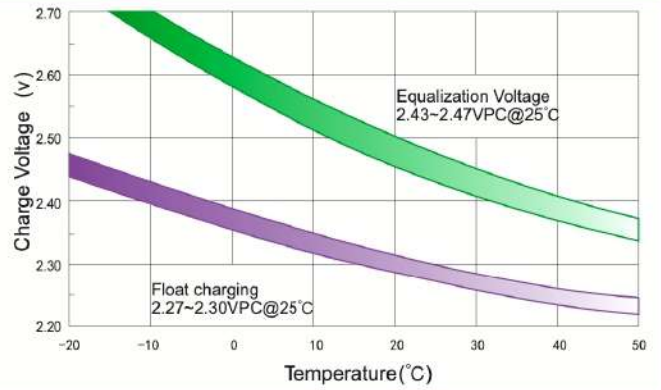
**Charge Characteristic Curve For Standby Use**



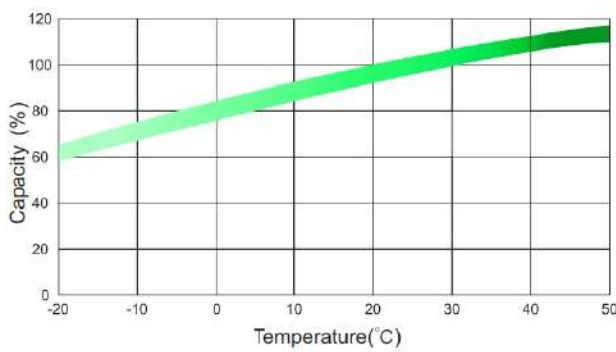
**Cycle Life In Relation To Depth Of Discharge**



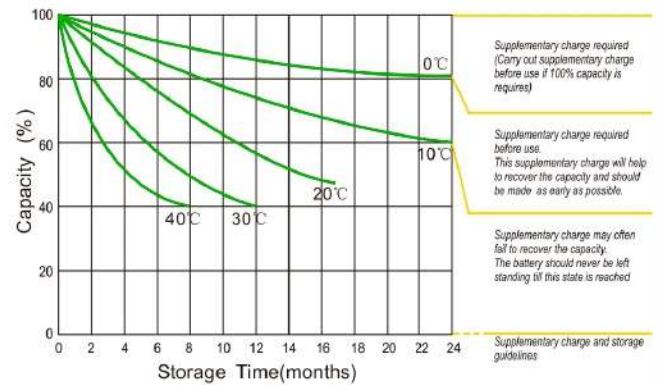
**Relationship Between Charging Voltage And Temperature**



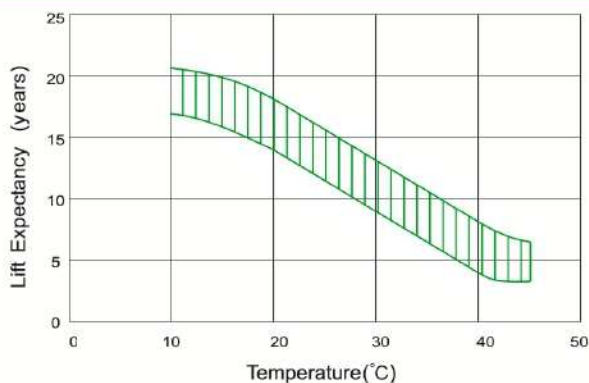
**Temperature Effects On Capacity**



**Storage Characteristics**



**Effect Of Temperature On Long Term Life**



**Life Characteristics Of Standby Use**

