

### Overview

The rechargeable batteries are lead-lead dioxide systems. The dilute sulfuric acid electrolyte is absorbed by separators and plates and thus immobilized. Should the battery be accidentally overcharged producing hydrogen and oxygen, special oneway valves allow the gases to escape thus avoiding excessive pressure build-up. Otherwise, the battery is completely sealed and is, therefore, maintenance-free, leak proof and usable in any position.



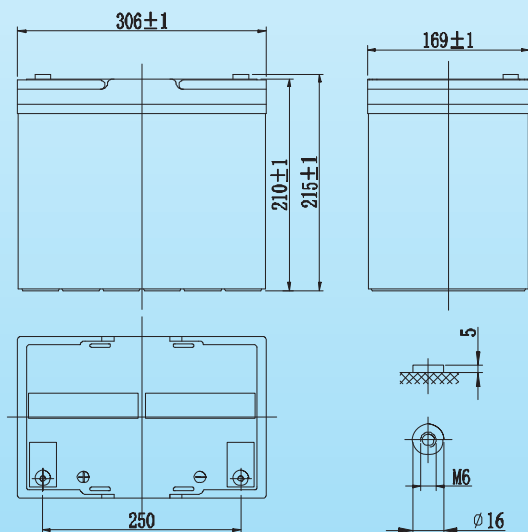
### General Features

- Positive and negative plates in lead-calcium tin alloy;
- Superior energy density;
- Operates at a low internal pressure;
- Gas Recombination;
- Usable in any orientation;
- A recognized component of UL;
- Very high power output;
- Application specific designs;
- A couple Range from 13W to 1010W per cell for 10'@1.60Vpc;
- Six months shelf life at 20°C;
- Design life 10 years.

### Dimensions and Weight

Length(mm / inch)	306 / 12.0
Width(mm / inch)	169 / 6.65
Height(mm / inch)	210 / 8.27
Total Height(mm / inch)	215 / 8.46
Approx. Weight(Kg / lbs)	28.0 / 61.7

\* Weight deviation: ± 5%



### Battery Specification

Performance Characteristics	
Nominal Voltage	12V
Number of cell	6
Design Life	10 years
Nominal Capacity 77°F(25°C)	
10 min wattage @1.6V	420W/cell
20hour rate (4.71A, 10.5V)	94.3Ah
10hour rate (9.00A, 10.8V)	90Ah
Internal Resistance	
Fully Charged battery 77°F(25°C)	≤5.0 mOhms
Self-Discharge	
3% of capacity declined per month at 20°C(average)	
Operating Temperature Range	
Discharge	-20~60°C
Charge	-10~60°C
Storage	-20~60°C
Max. Discharge Current 77°F(25°C)	800A(5s)
Charge Methods: Constant Voltage Charge 77°F(25°C)	
Cycle use	2.40-2.45VPC
Maximum charging current	27.0A
Temperature compensation	-30mV/°C
Standby use	2.20-2.30VPC
Temperature compensation	-20mV/°C

### Discharge Constant Current (Amperes at 77°F25°C)

End Point						
Volts/Cell	10min	15min	20min	30min	45min	60min
1.60V	235	192	155	118	87.5	68.0
1.65V	223	182	147	112	83.3	64.9
1.70V	210	172	139	106	79.0	61.7
1.75V	197	162	131	100	74.7	58.6
1.80V	190	156	127	97.4	73.0	57.3

### Discharge Constant Power (Watts at 77°F25°C)

End Point						
Volts/Cell	10min	15min	20min	30min	45min	60min
1.60V	420	333	272	210	154	121
1.65V	404	321	262	204	150	118
1.70V	389	309	253	197	145	115
1.75V	373	298	244	190	141	111
1.80V	357	286	235	183	136	108

(Note)The above characteristics data are average values obtained within three charge/discharge cycles not the minimum values.All data shall be changed without notice, Vision reserves the right to explain and update the information contained hereinto.



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# HF12-420W-X

12V 90Ah

