



VISION Rechargeable Products  
Sealed Lead Acid Battery

[www.vision-batt.com](http://www.vision-batt.com)

## HP&HF Series

### High Rate Discharge

The new VISION HP/HF series batteries are specially designed for applications where need high power output. By optimum design of battery grids and plate paste formula, the HP/HF series can deliver up to 40% more power than VISION standard CP/FM series.

Shenzhen Center power tech co., ltd has more than 15 year's experience in the manufacturing of VRLA batteries. SZCPT is one of the biggest manufacturers of SLA (or VRLA) batteries in the world, the biggest one in Mainland China and the first in China to develop and commercialize the sealed lead-acid battery with brand name VISION and has been at the forefront of battery technology from day one.

SZCPT leads the world in innovative battery technology. Our global network of sales and service engineers, backed in turn by our agents and distributors, means that we are currently active in more than 100 countries.

Shenzhen Center Power Tech. Co., Ltd

## HF12-420W-X 12V 90Ah

(Edition Aug 2011)

### 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 890W per cell for 10' @ 1.60Vpc
- Six months shelf life at 20°C
- Design life 10 years



### Dimensions and Weight

	SI Units	English Units
Length	306mm	12.0inch
Width	169mm	6.65inch
Height	210mm	8.27inch
Total Height	215mm	8.46inch
Approx. Weight	30.0Kg	66.2lbs

### Performance Characteristics

- Nominal Voltage 12V
- Number of cell 6
- Nominal Capacity 68°F(20°C)
  - 10 min wattage @ 1.6V420W/cell
  - 20 hour rate (4.71A, 10.5V) 94.3Ah
- Nominal Capacity 77°F(25°C)
  - 10 hour rate (9.00A, 10.8V) 90.0Ah
- Internal Resistance
  - Fully Charged battery 68°F(20°C) 4.2mOhms
- 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 68°F(20°C) 800A(5s)
- Charge Methods: Constant Voltage Charge 68°F(20°C)
  - Cycle use 2.30-2.35VPC
  - Maximum charging current 27A
  - Temperature compensation -30mV/°C
- Standby use 2.23-2.27VPC
  - Temperature compensation -20mV/°C



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**Discharge Data**

Constant Current Discharge Data ( Amperes at 20°C )

End Voltage Per cell / V	10min	15min	20min	25min	30min	35min	40min	45min	50min	55min	60min
1.60	235	192	155	133	118	105	95.2	87.5	79.7	73.3	68.0
1.65	223	182	147	126	112	100	90.5	83.3	75.9	69.9	64.9
1.70	210	172	139	119	106	94.5	85.8	79.0	72.1	66.4	61.7
1.75	197	162	131	112	100	89.2	81.1	74.7	68.3	63.0	58.6
1.80	190	156	127	109	97.4	86.9	79.1	73.0	66.7	61.6	57.3

Constant Power Discharge Data ( Watts per cell at 20°C )

End Voltage Per cell / V	10min	15min	20min	25min	30min	35min	40min	45min	50min	55min	60min
1.60	420	333	272	235	210	186	168	154	141	130	121
1.65	404	321	262	227	204	180	163	150	137	126	118
1.70	389	309	253	219	197	175	158	145	133	123	115
1.75	373	298	244	211	190	169	153	141	129	119	111
1.80	357	286	235	204	183	163	148	136	125	116	108

(Note)The above characteristics data are average values obtained within three charge/discharge cycles not the minimum values.

**Performance drawings**

