



**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 powertech 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

# HP12-60W 12V12Ah

(Edition June 2004)

## 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 5 years



## Dimensions and Weight

	SI Units	English Units
Length	151mm	5.94inch
Width	98mm	3.86inch
Height	95mm	3.74inch
Total Height	101mm	3.98inch
Approx. Weight	3.90Kg	8.60lbs

## Performance Characteristics

- Nominal Voltage 12V
- Number of cell 6
- Nominal Capacity 68°F(20°C)  
10 min wattage @ 1.6V 60W/cell
- Nominal Capacity 77°F(25°C)  
20 hour rate (0.60A, 10.5V) 12.0Ah
- Internal Resistance  
Fully Charged battery 68°F(20°C) 17mOhms
- 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) 180A(5s)
- Short Circuit Current 710A
- Charge Methods: Constant Voltage Charge 68°F(20°C)  
Cycle use 14.5-14.9V  
Maximum charging current 4.8A  
Temperature compensation -30mV/°C
- Standby use 13.6-13.8V  
Temperature compensation -20mV/°C



Center Power Industrial Park, Tongfu Industrial District Dapeng Town, 518120 Shenzhen, China  
Tel: 86 755 84318088 Fax: 86 755 84318038 E-mail: [sales@vision-batt.com](mailto:sales@vision-batt.com)  
Website: <http://www.vision-batt.com>



**HP12-60W 12V 12Ah**

**Discharge Data**

Constant Current Discharge Data ( Amperes at 20°C )																									
End Voltage Per cell / V	5min	10min	15min	20min	25min	30min	35min	40min	45min	50min	55min	1h	1.5h	2h	2.5h	3h	4h	5h	6h	7h	8h	9h	10h	12h	24h
1.60	50.5	35.2	26.7	21.3	18.0	15.8	13.7	12.2	11.0	9.93	9.10	8.41	5.93	4.69	3.94	3.45	2.70	2.26	1.90	1.64	1.45	1.30	1.19	1.03	0.57
1.65	47.5	33.3	25.3	20.2	17.1	15.0	13.1	11.6	10.4	9.46	8.68	8.02	5.66	4.48	3.77	3.30	2.59	2.16	1.82	1.58	1.40	1.25	1.14	0.99	0.55
1.70	44.5	31.4	23.9	19.1	16.2	14.2	12.4	11.0	9.89	8.98	8.25	7.63	5.39	4.27	3.60	3.15	2.48	2.07	1.75	1.51	1.34	1.20	1.10	0.96	0.53
1.75	41.5	29.5	22.5	18.0	15.2	13.4	11.7	10.4	9.35	8.51	7.82	7.24	5.13	4.07	3.43	3.01	2.37	1.98	1.67	1.45	1.28	1.15	1.05	0.92	0.51
1.80	39.7	28.4	21.7	17.4	14.8	13.1	11.4	10.1	9.13	8.31	7.64	7.08	5.02	3.98	3.36	2.95	2.32	1.94	1.64	1.42	1.26	1.13	1.03	0.91	0.50

Constant Power Discharge Data ( Watts per cell at 20°C )																									
End Voltage Per cell / V	5min	10min	15min	20min	25min	30min	35min	40min	45min	50min	55min	1h	1.5h	2h	2.5h	3h	4h	5h	6h	7h	8h	9h	10h	12h	24h
1.60	86.2	60.0	45.6	36.6	31.2	27.5	24.3	21.8	19.9	18.3	16.9	15.9	11.2	8.84	7.44	6.50	5.06	4.20	3.59	3.15	2.83	2.57	2.37	2.03	1.13
1.65	82.5	57.8	44.0	35.3	30.1	26.7	23.5	21.1	19.3	17.7	16.5	15.4	10.9	8.61	7.25	6.34	4.94	4.11	3.51	3.08	2.77	2.52	2.32	2.00	1.11
1.70	78.9	55.5	42.4	34.1	29.1	25.8	22.7	20.5	18.7	17.2	16.0	15.0	10.6	8.37	7.06	6.18	4.82	4.01	3.43	3.02	2.71	2.47	2.27	1.96	1.10
1.75	75.2	53.3	40.8	32.9	28.1	24.9	22.0	19.8	18.1	16.7	15.5	14.5	10.3	8.15	6.87	6.01	4.70	3.92	3.35	2.95	2.65	2.41	2.23	1.93	1.08
1.80	71.5	51.0	39.2	31.6	27.0	24.0	21.2	19.1	17.5	16.1	15.0	14.1	10.0	7.91	6.68	5.85	4.58	3.82	3.27	2.88	2.59	2.36	2.18	1.89	1.06

**Performance Drawings**

