



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

## HF12-470W-X 12V 100Ah

(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 10 years



### Dimensions and Weight

	SI Units	English Units
Length	330mm	13.0inch
Width	171mm	6.73inch
Height	215mm	8.46inch
Total Height	220mm	8.66inch
Approx. Weight	33.0Kg	72.8lbs

### Performance Characteristics

- Nominal Voltage 12V
- Number of cell 6
- Nominal Capacity 68°F(20°C)
  - 10 min wattage @ 1.6V470W/cell
  - 20 hour rate (5.25A, 10.5V) 105Ah
- Nominal Capacity 77°F(25°C)
  - 10 hour rate (10.0A, 10.8V) 100Ah
- Internal Resistance
  - Fully Charged battery 68°F(20°C) 3.7mOhms
- 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) 900A(5s)
- Charge Methods: Constant Voltage Charge 68°F(20°C)
  - Cycle use 14.5-14.7V
  - Maximum charging current 30A
  - Temperature compensation -30mV/°C
- Standby use 13.6-13.8V
  - Temperature compensation -20mV/°C



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## 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	351	271	222	180	155	138	123	111	101	92.2	84.8	78.7	55.4	43.8	36.8	32.2	25.0	20.7	17.6	15.3	13.7	12.4	11.4	9.64	4.90
1.65	330	256	211	171	147	131	116	105	96.2	87.8	80.8	75.1	52.9	41.9	35.2	30.8	23.9	19.8	16.9	14.7	13.1	11.9	10.9	9.29	4.74
1.70	309	242	199	162	139	124	110	100	91.3	83.4	76.9	71.4	50.4	39.9	33.6	29.4	22.9	19.0	16.1	14.1	12.6	11.4	10.5	8.95	4.57
1.75	288	227	188	152	131	117	104	94.1	86.4	79.0	72.9	67.8	47.9	38.0	32.0	28.1	21.9	18.1	15.4	13.5	12.1	11.0	10.1	8.60	4.41
1.80	276	218	181	148	127	114	101	91.8	84.3	77.1	71.2	66.3	46.9	37.2	31.4	27.5	21.4	17.8	15.2	13.3	11.9	10.8	9.90	8.48	4.35

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	627	470	378	310	270	243	216	196	180	164	151	140	100	80.4	68.5	60.5	47.7	40.0	34.2	30.1	27.0	24.5	22.6	19.6	10.2
1.65	600	453	364	300	261	235	209	190	175	159	147	136	97.7	78.3	66.7	59.0	46.6	39.1	33.5	29.4	26.4	24.0	22.2	19.3	10.0
1.70	573	435	351	289	252	227	202	184	169	154	143	133	95.0	76.3	65.0	57.5	45.4	38.2	32.7	28.8	25.8	23.5	21.7	18.9	9.87
1.75	547	418	338	279	243	219	195	177	164	150	138	129	92.4	74.2	63.3	56.0	44.3	37.3	32.0	28.1	25.3	23.0	21.3	18.6	9.71
1.80	520	400	325	268	234	211	188	171	158	145	134	125	89.8	72.1	61.6	54.5	43.2	36.4	31.2	27.5	24.7	22.5	20.8	18.2	9.54

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

## Performance drawings

