

PB UPS

(12V 105 Ah @ C20)

(VRLA AGM GEL)

Developed by scientists at Firefly Energy, Microcell™ Carbon Foam is a material that's revolutionizing the battery industry. Compared to spongy lead negative plates, one of the main components of conventional lead acid batteries, carbon foam Negative plates deliver longer service life, increased energy efficiency and better performance under extreme conditions. That's why we used it to create our revolutionary Firefly MCF battery.



Firefly carbon foam design resists hard sulfation and corrosion, two of the primary causes of failure in lead-acid batteries, while dramatically increasing the surface area in contact with the Active material within the battery, resulting in greater energy capacity, faster recharges, and deeper discharge capability.

SALIENT FEATURES

- ▶ Sealed and requires no maintenance.
- ▶ More than 3 - times cycle life compared to gel & AGM VRLA batteries at 50% DOD.
- ▶ Lower cost per kWh delivered compared to premium VRLA batteries.
- ▶ Unmatched ability to recover from extended storage in discharged state.
- ▶ Throughput efficiency greater than 90%.
- ▶ Improved high/low temperature performance. Superior protection against corrosion and sulfation related problems.
- ▶ Lowest Cost of ownership Industry leading warranty.
- ▶ Compatible with existing lead acid battery recycling infrastructure.
- ▶ Outstanding long life even under partial state of charge operation.

OASIS

MCF- MICROCELL CARBON FOAM TECHNOLOGY

APPLICATIONS



DATA CENTERS



TELECOM
SYSTEMS



HOSPITALS



BANKING &
FINANCE



INDUSTRIAL
AUTOMATION



COMMERCIAL
BUILDINGS



EDUCATIONAL
INSTITUTIONS



SMALL OFFICES &
HOME UPS



SALES@FIREFLYENERGY.UK



+44 7446 444664



WWW.FIREFLYENERGY.UK

PB 12-105 BATTERY

(VRLA AGM GEL)

OASIS

Partial state of charge cycling Efficiency	Ampere-hour >97% & watt hour >90%
Nominal Voltage	12V
Maximum charge voltage	14.10V
Maximum charge current	0.5C Amps for continuous charge 1C Amps can be tolerated for Sporadic sessions.
Internal resistance	5.0 mΩ
Shelf life@25°C(77°F)	2 years
Self- Discharge	<2% per Month
CCA	630 Amps

Temperature	Low	High
Operation	-20°C/-4°F	50°C/122°F
Storage	-30°C/-22°F	60°C/140°F

Weights & Dimensions	
Length	13.7in/350mm
Width	6.8in/171mm
Height	8.6in/218 mm
Weight	69.5lbs/31.5kgs
Volume	760.2Cu.in/12.3liters
Construction	
Terminal Configuration	3/8 "-16 UNC
Case/Cover	ABS
Racks	Available upon request

Discharge Rates to 1.75V Per Cell*

Hours	Amps	Ah	Kwh
0.25	155	38.8	0.47
1	63	63	0.76
3	26.7	80	0.96
5	17.4	87	1.04
10	10	100	1.20
20	5.25	105	1.26

Battery Life *

DOD(%)	Cycles
30	7500-11250
50	3000-3500
65	1500-2000
80	850-1100
100	500-700

* All above are at 25°C/77°F

International Compliance

- IEC 60896 -21/22 :2004
- IEC 61427
- IEC 60095
- IS 15549:2005
- IEC 61056
- ISO 9001:2015

Charge Temperature Compensation

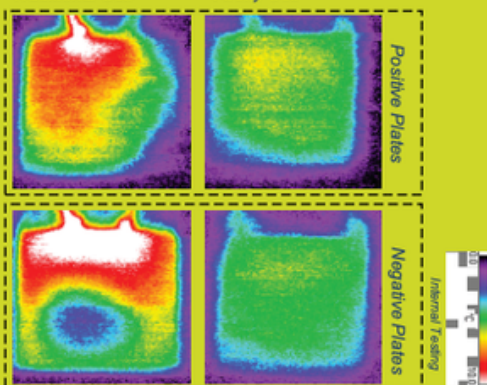
Operating Temperature	°C	-20	25	40	55
	°F	-4	77	104	131
Absorption Charge Voltage	V	15.6	14.1	13.8	13.5

Technical Data

DETAILS	No. of Cells/Bty	10 min	15 min	30 min	1 hr	2 hrs	3 hrs	4 hrs	5 hrs	6 hrs	7 hrs	8 hrs	9 hrs	10 hrs	20 hrs
Discharge current in Amps to End volt of 1.75V/cell	6 Cells	210.0	169.9	115.4	72.4	43.8	30.0	23.3	19.1	16.4	14.2	12.5	11.3	10.4	5.4
Constant Watts Discharge/Battery to End volt of 1.75V per cell	6 Cells	2268.0	1835.0	1260.0	795.1	483.0	333.0	260.4	222.2	191.0	166.0	148.5	135.5	127.9	66.2
Constant Watts Discharge/Cell (WPC) to End volt of 1.75V per cell	6 Cells	378.0	305.8	210.0	132.5	80.5	55.5	43.4	37.0	31.8	27.7	24.8	22.6	21.3	11.0

Traditional Cell

Firefly Cell



Infrared thermal images snapped at the end of a 5C (12 minute) discharge of both a Firefly 3D cell and a Traditional cell.

More uniform temperature distribution, as the Carbon Foam is thermally conductive, results in

- Uniform current density distribution.
- Higher overall active material utilization.
- Less localized positive grid corrosion.
- Less localized positive active material wear out.